

The
OHIO STATE UNIVERSITY
BULLETIN

VOLUME XXXV

MARCH 18, 1931

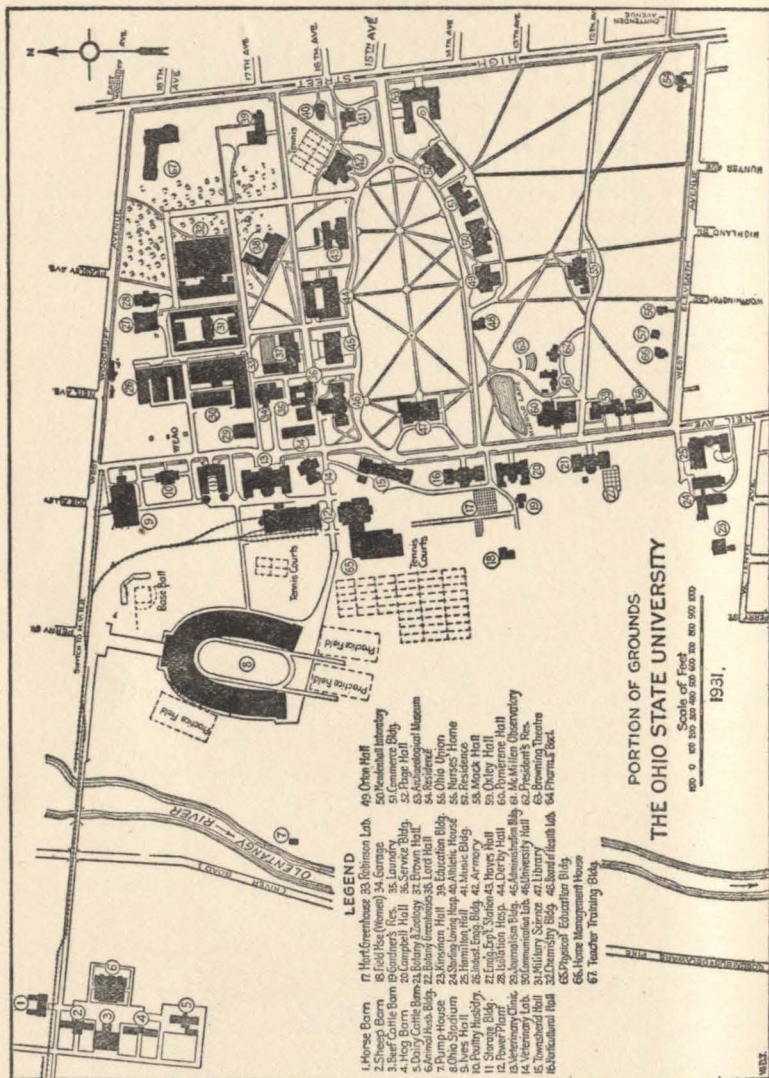
NUMBER 18

COLLEGE OF EDUCATION

1931-1932

PUBLISHED BY THE UNIVERSITY AT COLUMBUS

Entered as second-class matter November 17, 1905, at the postoffice at Columbus, Ohio, under Act of Congress, July 16, 1894. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. Authorized July 10, 1918.



CONTENTS

Administration	4
Admission	23
Assistantships, Fellowships, and Scholarships.....	33
Automobiles, Student.....	22
Bulletins Issued by the University.....	Cover page 3
Bureau of Educational Research	12, 98
Calendar	2, 3
College of Education.....	11
Combination Curriculum: Arts-Education.....	83
Cost of a Year's Work.....	32
Curricula, General and Special.....	45
Departments of Instruction.....	84
Fees and Expenses.....	28
Freshman Week	25
Fraternities and Sororities, Professional.....	18
Junior Deans	10
Living Arrangements	34
Marking System and Point System.....	40
Medals and Prizes.....	17
Officers and Faculty.....	5
Ohio State University.....	9
Penalties—Special Fees	31
Professional Subjects	14
Refund on Fees.....	30
Registration	25
Reserve Officers' Training Corps.....	15
Rules and Regulations.....	40
Self-Support	39
Sequence of Courses for Majors and Minors.....	74
Student Medical Service.....	21
Teachers' Certificates	14
Teachers' Placement Service.....	15
University Library	19

CALENDAR FOR 1931

JANUARY.							FEBRUARY.							MARCH.							APRIL.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	5	6	7	8	9	10	11
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21	12	13	14	15	16	17	18
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28	19	20	21	22	23	24	25
29	30	31	...	...	...	...	29	30	31	...	...	...	...	29	30	31	...	...	...	...	26	27	28	29	30	...	...
...

MAY.							JUNE.							JULY.							AUGUST.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
8	9	10	11	12	13	14	7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31	...	...	...	...	28	29	30	...	...	...	...	26	27	28	29	30	31	...	23	24	25	26	27	28	29
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	31	...	...	...	...	...

SEPTEMBER.							OCTOBER.							NOVEMBER.							DECEMBER.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
8	9	10	11	12	13	14	4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
15	16	17	18	19	20	21	11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
22	23	24	25	26	27	28	18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
29	30	...	...	...	...	...	25	26	27	28	29	30	31	29	30	...	...	...	...	...	27	28	29	30	31	...	...
...

CALENDAR FOR 1949

[illegible]

UNIVERSITY CALENDAR

1931

SUMMER QUARTER

June 1 to 5
June 12 to 19
June 15

June 16
June 20
July 4
July 20, 21, 22
July 17, 18

July 22
July 23
July 25
August 26, 27, 28
August 28
August 28

AUTUMN QUARTER

September 21 to 25
September 23 to 28
September 28

September 28

September 29
October 3

November 11
November 26, 27, 28
December 16, 17, 18, 19
December 18
December 19

Entrance Examinations.
Physical Examinations for all new students.
Latest day for registration and payment of fees without penalty. (See page 28.)
Classes begin, 7:30 A.M.
Intelligence Test for all new students (Saturday P.M.).
Independence Day. No classes.
Final Examinations, first term (at regular class hours).
Physical Examinations for all new students.
First term ends, 5:30 P.M.
Second term begins, 7:30 A.M.
Intelligence Test for all new students (Saturday P.M.).
Final Examinations (at regular class hours).
Summer Convocation (Commencement), 2:00 P.M.
Summer Quarter ends, 6:00 P.M.

Entrance Examinations.
Freshman Week.
Physical Examinations for students other than Freshmen.
Latest day for registration and payment of fees without penalty. (See page 28.)
Classes begin, 8:00 A.M.
Intelligence Test for all new students other than Freshmen (Saturday A.M.)
Armistice Day. No classes after 12 M.
Thanksgiving Recess.
Final Examinations.
Autumn Convocation (Commencement), 2:00 P.M.
Autumn Quarter ends, 6:00 P.M.

1932

WINTER QUARTER

January 2 to 5
January 4

January 5
January 9
February 22
March 16, 17, 18, 19
March 18
March 19

SPRING QUARTER

March 28 to 31
March 28

March 29
April 2
May 30
June 1
June 8, 9, 10, 11
June 11
June 12
June 13
June 14
June 14
June 21
September 2
October 4

Physical Examinations for all new students.
Latest day for registration and payment of fees without penalty. (See page 28.)
Classes begin, 8:00 A.M.
Intelligence Test for all new students (Saturday A.M.).
University Day. No classes.
Final Examinations.
Winter Convocation (Commencement), 2:00 P.M.
Winter Quarter ends, 6:00 P.M.

Physical Examinations for all new students.
Latest day for registration and payment of fees without penalty. (See page 28.)
Classes begin, 8:00 A.M.
Intelligence Test for all new students (Saturday A.M.).
Memorial Day. No classes.
Competitive Drill. Cadet Regiments.
Final Examinations.
Alumni Day.
Baccalaureate Sermon.
Class Day.
Spring Convocation (Commencement).
Spring Quarter ends.
Summer Quarter (1932) begins.
Summer Quarter (1932) ends.
Autumn Quarter (1932) begins.

ADMINISTRATION

BOARD OF TRUSTEES

JULIUS F. STONE, Chairman.....	Columbus
ALMA WACKER PATERSON, Vice-Chairman.....	Columbus
LAWRENCE E. LAYBOURNE.....	Springfield
EGBERT H. MACK.....	Sandusky
JOHN KAISER.....	Marietta
HERBERT S. ATKINSON.....	Columbus
HARRY A. CATON.....	Coshocton

ADMINISTRATIVE OFFICERS

President.....	GEORGE W. RIGHTMIRE
Office: Administration Building—UN-3148; Campus 312	
Residence: Ohio State University Campus—UN-3148; Campus 274	
President Emeritus.....	WILLIAM OXLEY THOMPSON
Residence: 55 Woodland Ave.—FA-9130	
Secretary of the Board of Trustees and Business Manager.....	CARL E. STEEB
Office: Administration Building—UN-3148; Campus 332	
Residence: 198 W. 11th Ave.—UN-4732	
Assistant to the President.....	GEORGE W. ECKELBERRY
Office: Administration Building—UN-3148; Campus 380	
Residence: 2023 Collingswood Rd., Upper Arlington—UN-8841-W	
Registrar, University Editor, Secretary of the University Faculty, and Alumni Recorder	EDITH D. COCKINS
Office: Administration Building—UN-3148; Campus 314	
Residence: 1580 Guilford Rd., Upper Arlington—UN-9635	
University Examiner.....	BLAND L. STRADLEY
Office: Administration Building—UN-3148; Campus 412	
Residence: Canal Winchester—Canal Winchester Ex. 71	
Executive Clerk.....	KATHERINE A. VOGEL
Office: Administration Building—UN-3148; Campus 312	
Residence: 1040 Elmwood Ave.—UN-3653-R	
Comptroller.....	CHARLES A. KUNTZ
Office: Administration Building—UN-3148; Campus 332	
Residence: 265 E. Tulane Rd.—LA-3606	
Cashier.....	FLORIS D. HANE
Office: Administration Building—UN-3148; Campus 372	
Residence: 373 13th Ave.—WA-1054	
Dean of Men.....	JOSEPH A. PARK
Office: Administration Building—UN-3148; Campus 283	
Residence: 1474 Doone Rd., Upper Arlington—UN-1659-J	
Dean of Women.....	ESTHER ALLEN GAW
Office: Pomerene Hall—UN-3148; Campus 480	
Residence: 60 Jefferson Ave.—MA-2692	
House Superintendent, Residence Halls.....	EMMA E. PROUT
Office: Oxley Hall—UN-3148; Campus 346	
Residence: Mack Hall—UN-3148; Campus 264	

COLLEGE OF EDUCATION

OFFICERS

Dean.....GEORGE F. ARPS
Office: Education Building—UN-3148; Campus 532, 424, 537
Residence: 216 E. Lane Ave.—WA-1203

Junior Dean.....JAMES LEWIS MORRILL
Office: 106 Education Building—UN-3148; Campus 494
Residence: 459 W. 8th Ave.—UN-9427-W

Secretary.....RAYMOND D. BENNETT
Office: Education Building—UN-3148; Campus 532
Residence: 144 E. Woodruff Ave.—WA-2363

BUREAU OF EDUCATIONAL RESEARCH

Director.....W. W. CHARTERS
Office: 201 Education Building—UN-3148; Campus 536
Residence: 1927 Indianola Ave.—UN-1753

Division of Appointments

Chairman.....EARL W. ANDERSON
Office: Education Building—UN-3148; Campus 535
Residence: 418 W. 9th Ave.—UN-0809

FACULTY

1930-1931

GEORGE W. RIGHTMIRE, M.A., LL.D.	<i>President of the University</i>
GEORGE F. ARPS, A.M., Ph.D.,	<i>Dean of the College of Education; Pro-</i>
<i>fessor of Psychology</i>	
JAMES L. MORRILL, B.A.	<i>Junior Dean of the College of Education</i>
RAYMOND D. BENNETT, A.M.,	<i>Secretary of the College of Education;</i>
<i>Assistant Professor of Education</i>	
LEWIS F. ANDERSON, M.A., Ph.D.	<i>Professor of History of Education</i>
ARTHUR BAGGS	<i>Professor of Fine Arts</i>
WILLIAM M. BARROWS, S.M., S.D.	<i>Professor of Zoology and Entomology</i>
EDWIN L. BECK, B.A.	<i>Professor of English</i>
LYDIA CLARK BENEDICT, B.S., M.A.	<i>Professor of Physical Education</i>
CHARLES SCOTT BERRY, A.M., Ph.D.,	<i>Director of the Bureau of Special</i>
<i>Education; Professor of Psychology</i>	
BOYD H. BODE, Ph.D.	<i>Professor of Principles of Education</i>
ORVILLE G. BRIM, A.M., Ph.D.	<i>Professor of Principles of Education</i>
HAROLD E. BURTT, A.M., Ph.D.	<i>Professor of Psychology</i>
FRANK R. CASTLEMAN, B.S., M.D.	<i>Professor of Physical Education</i>
W. W. CHARTERS, Ph.D., LL.D.,	<i>Director of the Bureau of Educational</i>
<i>Research; Professor of Education</i>	
FLOYD C. DOCKERAY, A.M., Ph.D.	<i>Professor of Psychology</i>
DAN H. EIKENBERRY, A.M., Ph.D.	<i>Professor of School Administration</i>
HORACE B. ENGLISH, B.A., Ph.D.	<i>Professor of Psychology</i>
RALPH S. FANNING, M.S., M.Arch.	<i>Professor of Fine Arts</i>

- ESTHER ALLEN GAW, Ph.D. *Dean of Women*
- HENRY H. GODDARD, M.A., Ph.D. *Professor of Psychology*
- HARRY G. GOOD, Ph.D. *Professor of History of Education*
- THOMAS C. HOLY, M.A., Ph.D., *Professor of Education and Research*
Associate of Bureau of Educational Research
- JAMES R. HOPKINS *Professor of Fine Arts*
- ROYAL D. HUGHES, A.M., Ph.D. *Professor of Music*
- CHARLES C. HUNTINGTON, M.A., Ph.D. *Professor of Geography*
- ARTHUR J. KLEIN, M.A., Ph.D. *Professor of School Administration*
- GEORGE W. KNIGHT, A.M., Ph.D. *Emeritus Professor of History*
- ERWIN E. LEWIS, A.M., Ph.D. *Professor of School Administration*
- FREDERICK E. LUMLEY, M.A., B.D., Ph.D. *Professor of Sociology*
- G. LESLIE LYNCH, M.L.A. *Professor of Landscape Architecture*
- FRANCIS N. MAXFIELD, Ph.D. *Professor of Clinical Psychology*
- WILLIAM MCPHERSON, M.Sc., D.Sc., Ph.D., LL.D., *Professor of Chemistry*
- ROBERT E. MONROE, A.B., M.A. *Professor of Romance Languages*
- W. JAMES OSBURN, M.A., Ph.D. *Professor of School Administration*
- EDWIN W. PAHLOW, A.M., Ph.D. *Professor of Education*
- FELIX PAYANT, B.S. in Ed. *Professor of Fine Arts*
- SIDNEY L. PRESSEY, A.M., Ph.D. *Professor of Educational Psychology*
- SAMUEL RENSHAW, M.A., Ph.D. *Professor of Experimental Psychology*
- HOWARD F. SEELY, M.S.Ed., M.A. *Professor of Principles of Education*
- LYNN W. ST. JOHN, Ph.B. *Professor of Physical Education*
- WILLIAM H. STONE, A.M., Ph.D., *Professor of Practical Arts and Vocational Education*
- HERBERT A. TOOPS, M.A., Ph.D. *Professor of Psychology*
- GEORGE R. TWISS, Ph.D. *Professor of Principles of Education*
- HERBERT WALL *Professor of Music*
- JAMES H. WEAVER, M.A., Ph.D. *Professor of Mathematics*
- EUGENE J. WEIGEL, B.Sc. in Edu. *Professor of Music*
- ALBERT P. WEISS, A.M., Ph.D. *Professor of Experimental Psychology*
- EARL W. WILEY, M.A. *Professor of English*
- CARL WITTKE, A.M., Ph.D. *Professor of History*
- HAROLD B. ALBERTY, LL.B., M.A., Ph.D., *Associate Professor of Principles of Education*
- EARL W. ANDERSON, M.A., Ph.D., *Associate Professor of Education and Research Associate of Bureau of Educational Research; Chairman of Appointments Office*
- JESSE ERWIN DAY, A.M., Ph.D. *Associate Professor of Chemistry*
- HARVEY H. DAVIS, A.M., Ph.D., *Associate Professor of School Administration*
- EDWIN POE DURRANT, A.M., M.A., Ph.D., *Associate Professor of Physiology*
- ARCH O. HECK, M.Sc., Ph.D., *Associate Professor of School Administration*
- H. GORDON HULLFISH, M.A., Ph.D., *Associate Professor of Principles of Education*
- FREDERICK C. LANDSITTEL, M.S.Ed., Ph.D., *Associate Professor of Principles of Education*

- JOSEPH A. LEEDER, B.Sc. *Associate Professor of Music*
 WARD G. REEDER, A.M., Ph.D., *Associate Professor of School Administration*
 ALICE ROBINSON, B.S. *Associate Professor of Fine Arts*
 ROBERT E. SMITH, M.A., Ph.D., *Associate Professor of Practical Arts and Vocational Education*
 LEWIS H. TIFFANY, M.Sc., Ph.D. *Associate Professor of Botany*
 RALPH W. TYLER, A.M., Ph.D., *Associate Professor of Education and Research Associate in Bureau of Educational Research*
 WILLIAM E. WARNER, M.S., Ph.D., *Associate Professor of Practical Arts and Vocational Education*
 ROBERT D. WILLIAMS, A.M., Ph.D. *Associate Professor of Psychology*
 M. EMMET WILSON, A.M., Ph.D., *Associate Professor of Instrumental Music*
 LAURA ZIRBES, A.M., Ph.D., *Associate Professor of Principles of Education*
 GRACE BAREIS, Ph.D. *Assistant Professor of Mathematics*
 AMY BRONSKY, M.A. *Assistant Professor of Principles of Education*
 JESSIE A. CHARTERS, M.A., Ph.D. *Assistant Professor of Education*
 W. H. COWLEY, A.B., Ph.D., *Assistant Professor of Psychology and Research Associate in Bureau of Educational Research*
 EDGAR DALE, M.A., Ph.D., *Assistant Professor of Education and Research Associate in Bureau of Educational Research*
 MERVIN A. DUREA, M.A., Ph.D. *Assistant Professor of Psychology*
 ROSCOE H. ECKELBERRY, M.A., Ph.D., *Assistant Professor of History of Education*
 HAROLD A. EDGERTON, M.A., Ph.D., *Assistant Professor of Psychology*
 ERWIN F. FREY *Assistant Professor of Sculpture*
 JAMES F. FULLINGTON, M.A., Ph.D., *Assistant Professor of Principles of Education*
 FRANCIS HEAD, B.S. in C.E., M.L.A. *Assistant Professor of Fine Arts*
 E. ALLEN HELMS, M.A., Ph.D. *Assistant Professor of Political Science*
 KATHERINE F. HERSEY, B.S., M.A., *Assistant Professor of Physical Education*
 DARWIN A. HINDMAN, M.A. *Assistant Professor of Physical Education*
 M. EDITH JONES, B. Mus. *Assistant Professor of the Theory of Music*
 MABEL DEBRA KING, M.A. *Assistant Professor of Fine Arts*
 HARLAN G. METCALF, A.M., *Assistant Professor of Physical Education*
 DAVID F. MILLER, M.A., Ph.D., *Assistant Professor of Zoology and Entomology*
 ARTHUR H. NOYES, A.M., Ph.D. *Assistant Professor of History*
 GLADYS E. PALMER, B.A. *Assistant Professor of Physical Education*
 LUELLA C. PRESSEY, A.M., Ph.D. *Assistant Professor of Psychology*
 A. SOPHIE ROGERS, M.A., Ph.D., M.D., *Assistant Professor of Psychology*
 ROBERT OSWALD ROESELER, Ph.D. *Assistant Professor of German*
 MAUDE M. SLAWSON, B.Mus., M.A. *Assistant Professor of Music*
 JAMES B. THARP, A.M., Ph.D., *Assistant Professor of Principles of Education*
 CLOEA C. THOMAS, B.Sc. in Mus. Ed. *Assistant Professor of Music*
 WILLARD L. VALENTINE, M.A., Ph.D. *Assistant Professor of Psychology*

GUY B. WISER, B. Arch.

PAUL J. FAY, A.M., Ph.D.

LELA HARDY, B.M., B.F.A.

A. LEE HENDERSON, M.A.

WILL RANNELLS

HOYT L. SHERMAN, B.A.

EMILY LEATHERMAN STOGDILL, M.A., Ph.D.

ELIZABETH WALKER, B.Sc. in Edu.

LOA E. BAILEY, B.P., A.M.

JOSEPHINE MACLATCHY, M.A., Ph.D.

Assistant Professor of Fine Arts

Instructor in History of Education

Instructor in Music

Instructor in Psychology

Instructor in Fine Arts

Instructor in Fine Arts

Instructor in Psychology

Instructor in Fine Arts

Librarian

Editorial Assistant

THE OHIO STATE UNIVERSITY

The Ohio State University is situated within the corporate limits of the city of Columbus. It is supported by appropriations from the State and Federal governments. The University land covers 1,163 acres, 300 of which are in the campus. The total value of land, buildings, and equipment is \$20,042,882.20.

ORGANIZATION

For convenience of administration the departments of the University are grouped into organizations called Colleges. The Ohio State University comprises ten Colleges and a Graduate School, each under the administration of a Dean and College Faculty, as follows:

Graduate School	College of Dentistry
College of Agriculture, including the School of Home Economics	College of Education
College of Arts and Sciences	College of Engineering
College of Commerce and Administration, including the Schools of Journalism and Social Administration	College of Law
	College of Medicine, including the School of Nursing
	College of Pharmacy
	College of Veterinary Medicine

THE UNIVERSITY YEAR—FOUR QUARTERS

The University year is divided into four Quarters, each approximately eleven weeks in length. The Summer Quarter is further divided into two terms of approximately six weeks each. Complete courses that are so announced may be taken for either term or for the entire Quarter.

Nearly all of the elementary courses are five hours each week. A number of more advanced courses are two or three hours each week. The schedule is so arranged that a student who is registered in a College where the work is largely elective, may enter at the beginning of any Quarter and may, without hardship, be absent during any Quarter. For the most part students will take one Quarter each year as a vacation period—usually the Summer Quarter. By attendance in all four Quarters the duration of the time of residence for a degree may be shortened. Many persons, particularly teachers, avail themselves of the advantages offered in the Summer Quarter.

This *Bulletin* is devoted to the work of the College of Education for the Autumn, Winter, and Spring Quarters, 1931-1932. The announcements for the Summer Quarter are printed in the Summer Quarter Bulletin.

NOTE: Bulletins describing the work of the several Colleges may be obtained by addressing the University Examiner, Ohio State University, Columbus, and stating the College in which the writer is interested. (For list of bulletins, see cover page 3.)

JUNIOR DEANS

The chief function of the Junior Dean is to provide closer supervision of the work of the Freshmen and Sophomores, to help these students adjust themselves to their new conditions, and to act as their chief adviser in all university matters.

The problem of providing more satisfactory methods of instruction for the increasing numbers of underclassmen, as well as the problem of adjusting the curricula of the various colleges to meet the varying needs of particular groups of students will be constantly under consideration by the Junior Council, consisting of the Junior Deans and certain other members of the University Faculty under the leadership of the President of the University.

SUMMER QUARTER

Courses offered by the professional departments of the College of Education during the Summer Quarter comprise nearly all the courses offered during the rest of the year and, in addition, a number of special Summer Quarter courses. Practically the entire staff of the professional departments offers instruction during the Summer Quarter. This regular staff is increased by a considerable number of visiting professors from other colleges and universities.

The Summer Quarter is divided into two terms of equal length. A student may register for either term or for the entire Quarter.

Students desiring information regarding the Summer Quarter should write for the Summer Quarter Bulletin.

COLLEGE OF EDUCATION

GENERAL INFORMATION

The office of the College of Education is located in the Education Building, on the northeast corner of the University Campus, at the Seventeenth Avenue and High Street entrance. The office is open from 8 a. m. to 12 m. and 1 to 5 p. m. except Saturday. On Saturday, the office hours are from 8 a. m. to 12 m.

The offices of the President of the University, the University Examiner, the Registrar, and the Bursar are located in the Administration Building.

SCOPE OF WORK OFFERED

This College was established by the University for the professional training of teachers, as provided in the school laws of this State, and is the teacher training agency within the University. It offers practical and theoretical courses for the training of high school and elementary school teachers and principals, of supervisors and teachers of special studies—music, physical education, fine arts, home economics, industrial arts, commercial subjects, of school psychologists, of professional workers in adult, parental, and pre-school education, of school nurses and teachers in schools of nursing, of superintendents of school systems, of county and district superintendents, and of instructors in normal schools. Its purpose is to assist the student in the acquirement of a knowledge of the branches which he wishes to teach, to develop a professional attitude toward education, and to develop skill in the use of efficient methods of teaching and supervision.

The effort of the College is to bring into proper adjustment within the limits of a four-year course the academic training, the theoretical professional training, and the practical professional training necessary for effective teaching. The completion of the requirements in this College leads to the degree, Bachelor of Science in Education.

The College confers also the degrees Bachelor of Music and Bachelor of Fine Arts. The requirements for these degrees are given on pages 69 to 73.

DEPARTMENTS

The College of Education includes work in the following departments offering general and professional training for teachers: Psychology, History of Education, School Administration, Principles and Practice of Education, Adult Education, Fine Arts, Music, Bureau of Educational Research, Bureau of Special Education, Practical Arts and Vocational Education, Accounting, Agricultural Chemistry, Anatomy, Architecture, Astronomy, Bacteriology, Bibliography, Botany, Business Organization, Ceramic Engineering, Chemical Engineering, Chemistry, Civil Engineering, Classical Languages and Literature, Economics, Engineering Draw-

ing, English, Geography, Geology, German, History, Home Economics, Horticulture and Forestry, Industrial Engineering, Journalism, Mathematics, Military Science and Tactics, Philosophy, Phonetics, Physical Education, Physics, Physiology, Political Science, Public Health and Hygiene, Romance Languages and Literatures, Rural Economics, Sociology, Zoology and Entomology.

THE BUREAU OF EDUCATIONAL RESEARCH

In recognition of the need for research work in the field of education, and in order to serve the public schools of the State whose research problems are especially numerous, the Bureau of Educational Research has been created in the College of Education. Under certain restrictions students enrolled in the various departments of the College of Education may work in the Bureau. Graduate students will find the facilities of the Bureau of great assistance. The Bureau maintains a service department and a textbook library. For further description of the Bureau see Departments of Instruction.

THE BUREAU OF SPECIAL EDUCATION

The Bureau of Special Education has been organized in the College of Education in order to promote the education of all types of exceptional children (the handicapped and the gifted) through field service, teacher training, and research. See Departments of Instruction for further description of the Bureau.

THE PARENTS LABORATORY PRE-SCHOOL

The State Department of Education has set up a demonstration and parent-training pre-school for children four and five years old. By an arrangement for cooperation the Parents Laboratory Pre-School becomes available as a laboratory for the Department of Adult Education and the Division of Parental Education of the State Department.

The Pre-School is conveniently located on High Street directly opposite that part of the campus on which the Education Building is located. A limited number of students may be admitted for training in pre-school teaching and for work in parental education. Only such students are accepted as have had preparation in a suitable major. Graduate students will be given preference. The Parents Laboratory Pre-School affords also an opportunity for observation of pre-school teaching for students in other departments under certain conditions. The Pre-School operates according to the University calendar, including a session during the first term of the Summer Quarter.

THE UNIVERSITY ELEMENTARY SCHOOL

The University Elementary School has been established and is at present maintained in leased quarters at 47 East Frambes Avenue, a short distance from the Education Building. This school is sponsored

by the Department of Principles and Practice of Education as a laboratory in which students in the College of Education may observe and study modern elementary school practice. The advantages of a close integration of theory and practice are thus secured. Systematic observation is specified as a partial requirement in certain courses as described in this Bulletin. With the permission of the director of the school, advanced students in the College of Education or the Graduate School may participate in the study of problems under investigation at the University Elementary School. Other interested persons may arrange to visit the school by appointment.

GRADUATE WORK

Students desiring to do graduate work in any of the departments of the College of Education will register in the Graduate School. Graduate courses leading to the degrees of M.A. and Ph.D. are offered by all the professional departments of the College of Education, comprising History of Education, Fine Arts, Practical Arts and Vocational Education, Principles and Practice of Education (including Secondary, Elementary, and Rural Education), Psychology, School Administration, and Adult Education. Graduate work is offered also by the Department of Music. For information regarding fees, registration, graduate degrees, etc., consult the Bulletin of the Graduate School.

All graduate students registered in "600" courses are required to complete a certain amount of work in addition to that required of undergraduates. This may consist of reading additional books on the subject, the presentation of reports, or of such other work as the instructor in charge of the course may deem wise.

GRADUATE CREDIT FOR SENIORS

A Senior whose full time is not required for the completion of the work for his baccalaureate degree may select certain courses for graduate credit, *but to do this the permission of the Graduate Council (Room 106, University Hall) must be obtained before registering for the courses.*

RESIDENCE REQUIREMENT

A candidate for a degree must secure credit by regular class enrollment for the full work of three Quarters. This work must be in courses offered by the College recommending the degree, and must be secured while in residence at this University. During the last two Quarters of his residence the candidate must be enrolled in the College recommending the degree.

REGISTRATION OF CANDIDACY FOR DEGREE

Immediately prior to the beginning of his Senior year every student is expected to register candidacy for his degree. To comply with this rule, a student should go to the College of Education Office, and fill out

the blank form which will be furnished him. His candidacy will then be entered upon the records of the College and, if he requests it, he will be given a statement showing his standing with respect to credit hours and credit points, academic and professional subjects, major and minors, and all other requirements for the degree, Bachelor of Science in Education.

Students expecting to obtain degrees in June, 1932, are advised to go to the College office during the Spring Quarter of 1930-1931 and register their candidacy. Students expecting to be candidates for degrees at the end of the Summer, Autumn, or Winter Quarters should register their candidacy three Quarters prior to the expected time of graduation. Then as soon as their grades for the current Quarter are recorded, statements, if requested, will be prepared and mailed to them. Students who are in doubt regarding their requirements are advised to secure such statements before registering for any of the work of the Senior year.

All prospective graduates of the College of Education must register with the Appointments Office one Quarter before the date of graduation. Schedule cards for the last Quarter's work will not be approved by the Secretary of the College of Education until the student has completed all registration with the Appointments Office. There are no exceptions to this rule.

PROFESSIONAL SUBJECTS

Pursuant to the present School Code of Ohio the State Director of Education has designated the subjects which are accepted and treated as professional subjects in the training of teachers and which are required of all applicants for state provisional certificates.

The subjects are General Psychology, Educational Psychology, History of Education, Principles of Education, School Administration, Special Methods and Supervised Observation of Teaching and Supervised Teaching.

TEACHERS' CERTIFICATES

All graduates of the College of Education are entitled, under the law, to a state provisional high school or elementary school teacher's certificate, without examination. This certificate, obtainable from the State Director of Education on the payment of a fee of one dollar, is valid in the State of Ohio for four years and the holder is eligible without further examination for appointment as teacher in any high school or elementary school in the State.

Graduates from this College in Home Economics, in Commercial Teacher Training, in Fine Arts, in Music, in Practical Arts and Vocational Education, and in Physical Education are also entitled, without further examination, to a state provisional special certificate valid for four years, in the appropriate one of the above lines. The holder of such special certificate is eligible for appointment as teacher or supervisor in the particular subject covered by the certificate.

The holder of any of these provisional certificates, furnishing evidence that he has completed at least twenty-four months of successful

teaching during the four years, will be granted a state life certificate, of corresponding character, by the State Board of School Examiners.

Applications for these certificates may be obtained at the office of the Secretary of the College of Education. All applications for these certificates must be filed with the Secretary not later than two months previous to the time at which the degree is expected.

TEACHERS PLACEMENT SERVICE

The Ohio State University maintains a Teachers Placement Service for the convenience of the Superintendents and Boards of Education of the State. Graduates and graduate students of the University are invited to enroll with the Appointment Office. Registration with the Appointment Office is a prerequisite for graduation from the College of Education.

The Placement Service is under the direction of the Bureau of Educational Research. This service is rendered free of charge to the applicants. Graduates of experience who desire to better their locations are invited to communicate with the Appointment Office.

The Appointment Office has available such statistical information that advice and direction may be given in the matter of supply and demand for teachers in their various fields.

The service offered will be rendered on the exact basis of merit.

Superintendents and Boards of Education are invited to state their needs to the Appointment Office. Prompt attention to all calls is assured.

RESERVE OFFICERS' TRAINING CORPS

Under the law of Congress establishing the land grant colleges, it is required that instruction in Military Science and Tactics be included in the curricula. This instruction is given under the National Defense Act of June 3, 1916, as amended, establishing in the University the Reserve Officers' Training Corps. Twenty-three commissioned officers and thirty enlisted men of the Regular Army are detailed by the War Department to take charge of this department. The Board of Trustees has directed that all male students, special and regular, except those registered in the Colleges of Dentistry, Law, and Medicine, and in the curriculum in Applied Optics, shall complete the two years of military requirements unless especially excused by the Department of Military Science and Tactics.

A student who has passed his twenty-fifth birthday before entering the University, or who will pass his twenty-fifth birthday on or before Commencement Day of the Spring Quarter following his matriculation in the University, may be excused from the Military Science requirement.

Self-support is not an adequate reason for excusing a student from the requirement in Military Science.

The Reserve Officers' Training Corps is organized as a Reinforced Brigade consisting of two regiments of Infantry, each composed of three battalions of four companies each; two regiments of Field Artillery, each composed of two battalions of three batteries each; one battalion of Signal Corps, composed of two companies; and two Bands of seventy-five

pieces each. There is also a Medical Corps Unit, a Dental Corps Unit, and Veterinary Corps Unit. The total number of men in all units averages about three thousand five hundred.

The course of instruction is both practical and theoretical, and divided into basic (first and second year) and advanced (third and fourth year) courses in Infantry, Field Artillery, Signal, Medical, Dental, and Veterinary Corps. One-half of the time is devoted to theoretical work in the classroom and one-half of the time to practical work in the field. The basic courses are required of all Freshmen and Sophomores. The advanced courses are elective for Juniors and Seniors. Students completing the advanced course, when recommended by the Commandant and the President of the University, are granted commission as Second Lieutenant in the Officers' Reserve Corps by appointment from the President of the United States. No student is eligible for the advanced course until he has completed satisfactorily the basic course or its equivalent.

This University has adopted its own style of uniform. Last year the Basic Course students were paid commutation of uniforms amounting to \$10.00 each for the academic year. This allowance is pro-rated monthly to students who do not remain in attendance during the entire academic year. This allowance is paid only at the close of the Spring Quarter.

Students taking advanced courses in Military Science and Tactics receive commutation of rations which last year amounted to thirty cents a day, payable quarterly, and commutation of uniform which last year amounted to \$30.00 for the First Year Advanced men (Juniors), and to \$10.00 for the Second Year Advanced men (Seniors).

The appointment of cadet officers is made usually from those who have served in the Military Department at least two years and as a reward for excellence in their work. No compensation is paid to cadets who are completing their first two years of service in the Military Department, the only exception being those who have had the equivalent of the required two years in service elsewhere and have had such service approved.

Service in the Band is credited as fulfilling the military requirement, the positions being assigned after competitive try-out.

CREDIT FOR WORK IN RESERVE OFFICERS' TRAINING CORPS

For students who complete the curriculum of the Reserve Officers' Training Corps (as defined in General Orders No. 49 or as may be amended in the future by the War Department), the total number of hours required in the General Course for the degree of Bachelor of Science in Education is 190 Quarter-credit hours, including the basic work in military science, physical education and hygiene. The student may, however, substitute eighteen hours of advanced military courses for a similar number of elective hours. For the other curricula in the College of Education a similar arrangement of elective hours for the degree is authorized. The requirements in the professional subjects of the curricula must be fully met.

MEDALS AND PRIZES

THE RHODES SCHOLARSHIPS

Men who have completed their Sophomore year at the Ohio State University are eligible to compete for the Cecil Rhodes Scholarships, tenable for three years at Oxford University, England, with a stipend of four hundred pounds each year. These scholarships are awarded on the combined basis of character, scholarship, athletics, and leadership in extra-curricular activities. Further information may be obtained from Royall H. Snow, Department of English, Derby Hall; or from the Dean of the College of Arts and Sciences.

THE WILLIAM EDWARD BINGHAM MEMORIAL MEDAL IN PHILOSOPHY

A medal is awarded annually to the undergraduate who presents the best essay on a philosophical topic. The conditions of the competition are fixed by the Department of Philosophy. The medal, established in 1922, is a memorial to William Edward Bingham, a graduate student in philosophy in this institution from 1914 to 1916; he served in the United States Navy from April, 1917, to December, 1918, when he was accidentally drowned in the performance of his duties in the harbor of Tangier. The medal was executed by Mme. Anie Mouroux.

THE BRYAN PRIZE

Through the generosity of the late Hon. William J. Bryan an annual prize of \$60 is offered for the best essay on a subject involving the principles underlying the American government. Competition for this prize is open to all graduate students who are alumni of this University, and to all members of the graduating class. For further information make inquiry of the Chairman of the Department of History.

THE VANDEWATER POETRY PRIZE

The Vandewater Poetry Prize was established Semicentennial Week by Mrs. Sarah O'Kane Raymund, '91, in honor of her grandfather. All students, graduate or undergraduate, *in residence* in the University are eligible to compete. No limit is set to the number of contributions that may be offered by one contestant. Announcement of the results is made in May; the award of \$25 is made to the successful contestant at the June Commencement and the winning poem is published in the Ohio State University Monthly and in the Ohio State Lantern. The judges are members of the staff of the Department of English or others chosen by them. If in any year none of the work submitted is of sufficient merit, the donor provides that the income be spent by the Department of English for books of poetry or criticism to be deposited in the University Library.

THE JOHN GORDON BATTELLE MILITARY PRIZE

The income of the John Gordon Battelle fund, established in 1916, is to be used as a yearly prize for senior officers in the cadet regiments of the Infantry and Field Artillery Units for the best solution of a military map problem. The income is now sufficient to offer an officer's olive drab uniform to the winner in each of these units.

THE SWORD OF '86

The Class of 1886 presented the Military Department with a prize sword to be presented to the Cadet Captain of the Infantry Company which wins the Annual Competitive Drill of the Cadet Regiments, who has the privilege of wearing it for one year. At the close of the year he is presented with a regulation Officer's sword and belt to be his personal property and the Sword of '86 is returned to the Military Department.

PROFESSIONAL FRATERNITIES AND SORORITIES

Chapters of six professional fraternities and sororities for men and women majoring in the fields of education have been organized at this University. These are: Phi Delta Kappa, Alpha Psi Delta, Kappa Phi Kappa, Pi Lambda Theta, Epsilon Pi Tau, and Gamma Psi Kappa.

Phi Delta Kappa, national honorary educational fraternity, was founded in 1910. Members are selected from men of high scholastic and professional standards who are majoring in the field of education, membership being confined mostly to graduate students. Sigma Chapter at Ohio State University was established in 1916.

Alpha Psi Delta, national psychological fraternity, is represented at Ohio State University by Beta Chapter, established at Ohio State University in 1921. Its members are the men who are faculty members of the Department of Psychology, and graduates or Seniors of high scholarship who are specializing in psychology. The meetings are largely devoted to lectures on and round table discussions of psychological topics, and to the reviews of books and periodicals in the field.

Kappa Phi Kappa, national professional educational fraternity for undergraduates, has established Alpha Eta Chapter at Ohio State University. The purpose of this fraternity is to emphasize social intercourse, scholarly attainment, and professional ideals. The organization maintains a fraternity house. Members are selected from men who have given promise of genuine interest in the professional study of Education.

Pi Lambda Theta, national honorary educational sorority, is open to women students of junior, senior, and graduate standing. The scholarship requirement for eligibility to membership is a point-hour ratio in all academic work of 3.4 to 3.7 for undergraduates (according to the number of hours taken at this University) and 3.8 for graduate students. The meetings are devoted to the broadening of the teacher's outlook and the intensifying of her interest in education.

Epsilon Pi Tau, national honorary fraternity in Practical Arts and Vocational Education for upperclassmen and graduate students, was established at Ohio State University in 1929. Its ideals are to advance beyond an assumed basis of artisan skill into social proficiency and active research effort. Basis for membership lies in the individual's potentialities for growth in the ideals of the fraternity.

Gamma Psi Kappa, an honorary sorority for graduate women who are majoring in psychology, was founded on this campus in the Spring of 1930. To be eligible for active membership the student must have obtained the Master's degree. Associate membership may be conferred after the completion of ten hours of graduate credit in psychology, with a point hour ratio of 3.66 and the recommendation of two professors.

THE UNIVERSITY LIBRARY

The University Library consists of all books owned by the University and numbers approximately 359,850 volumes. The main part of the Library, which is known as the General Library, is housed in the Library building. Very important divisions of the book collection are housed in other buildings. A catalog of the entire collection is maintained in the General Library.

Any person is privileged to use the University Library for reference, but books may be drawn only by officers and registered students of the University.

The General Library is open, during the Autumn, Winter, and Spring Quarters, from 7:45 a. m. to 10:00 p. m., Monday to Friday; Saturday from 7:45 a. m. to 5:30 p. m. During the Summer Quarter, hours are from 7:30 a. m. to 10:00 p. m., Monday to Friday; Saturday from 7:30 a. m. to 5:30 p. m. Vacation hours are from 8 a. m. to 5 p. m. Monday to Friday; Saturday from 8 a. m. to 12 m. During the Autumn, Winter and Spring Quarters, the Library is open on Sunday afternoons from 2 to 6 P. M.

The University Library is a depository for the official publications of the United States and has a very complete collection of these documents. It also receives thousands of documents from states, cities, and foreign countries. The Library also possesses the British Parliamentary Papers including rare early volumes. The exchanges of the Ohio Academy of Science, of the Ohio State University Scientific Association and of the Ohio Biological Survey are deposited in the University Library.

The University Library is a depository for the Library of Congress catalog.

Eleven department libraries, organized divisions of the University Library, are in charge of library assistants.

The Botany and Zoology Library is located in the Botany and Zoology Building. The "Index to General Botanical Literature," the "Index to Algological Literature" and the card index of the Concilium Bibliographicum are in this departmental library.

Brown Hall Library, located in Brown Hall, contains collections of

books on Architecture, Engineering Drawing, and Civil Engineering. The collection of plates filed in this library is especially valuable for students in Architecture.

The Charles Cutler Sharp Library is located in the Chemistry Building. It contains not only the current periodicals and a large collection of dictionaries and handbooks on chemistry, but also complete sets of all important journals dealing with subjects lying within the general field of chemistry and related sciences.

The Commerce Library, in the Commerce Building, includes a working collection of books for the undergraduate students in the College of Commerce. A large study room is maintained and also a reserve collection for student use.

The Education Library is located in the Education Building. It is organized for graduate work and includes complete sets of important educational and psychological periodicals, city and state reports, textbooks and other works of reference on educational and psychological subjects.

The Law Library is in Page Hall. It includes all of the United States and state reports, the English reports, the Irish reports, the latest statutes, codes and session laws of the states, complete sets of all the important legal periodicals and an up-to-date collection of textbooks. It is especially well equipped for the study of Ohio law.

The Lord Hall Library consists of collections of books on Ceramics, Mining, Metallurgy, and Mineralogy and is located in Lord Hall.

The Medical and Dental Library is in Hamilton Hall. It consists of a working collection of books and periodicals. The historical books and many of the foreign periodical sets are shelved in the General Library.

The Orton Memorial Library, located in Orton Hall, is one of the finest geological libraries in the country. In addition, the Ohio Geological Survey deposits its document exchanges with the library. These two collections constitute a very complete set of official geological reports from the states, foreign governments, and scientific societies.

The Pharmacy-Bacteriology Library is located on the first floor of the new Pharmacy and Bacteriology Building. It comprises files of journals and selected titles in pharmacy and bacteriology designed to furnish a reference collection for the students in these departments.

The Alfred D. Cole Memorial Library of Physics occupies two rooms in the Mendenhall Laboratory of Physics. The nucleus of the collection is the private library of Professor Cole, supplemented by files of journals and selected titles in the field of physics, transferred to this collection from the General Library. A memorial endowment fund contributed by friends of Professor Cole will ultimately provide for additions to this Library.

Smaller office collections are connected with many of the departments. The books relating to the Department of Fine Arts are collected in the Mantel Room in the General Library, where students have every facility for research.

The Library of the Ohio Archaeological and Historical Society,

which is on the University Campus, is at the service of the officers and students of the University. This library is specializing in the history of Ohio and the Northwest, and a very valuable collection is being built up.

The special library of Battelle Memorial Institute and the collections of the State Library are open to faculty and students of the University and supplement in important fields the collections of the University Libraries.

STUDENT MEDICAL SERVICE

Medical Staff: Dr. James S. Wilson, Director; Dr. M. F. Osborn, Dr. John W. Wilce, Dr. J. M. Foley, Dr. James A. Beer, Dr. Shirley Armstrong, Dr. Charlotte Winnemore.

Office Hours: When the University is in session, daily 8:30 to 12:00, and 1:00 to 4:30; Saturday, 8:30 to 12:00. Phone: Campus 461.

The object of the Student Medical Service is to render first aid and casual treatment to students on the campus. It also plans to conduct periodic health examinations for those who desire them.

Free Treatment. Consultation at the hours indicated above is free to any student. Two days hospital observation at the University Hospital is also free for those students, who in the judgment of the Student Medical Service, are in need of hospital service. Students requiring more than first aid or casual treatment will be referred to competent medical practitioners unless unable to pay for such services.

It may develop that students undergoing treatment at the Student Medical Service Office on the campus will need the services of a competent specialist. This will be arranged by the Student Medical Service on request of the student. The specialist is to be paid by the student.

Treatment off the Campus. For students who have recently entered the University, the following information is offered. In case of illness off the campus, students desiring the services of a physician will call UN-5842, the Physicians and Surgeons Bureau, who on receipt of the call will arrange for the services of a competent physician to attend the case. The student requesting the call will pay the attending physician.

Periodic Health Examination. It is proposed to offer to the Seniors for the present academic year the privilege of undergoing a health examination. The examination is to be conducted along the lines approved by the American Medical Association and will be made without cost to the student. Such an examination is of the utmost importance for the purpose of removing a present disability or forestalling one that may occur in the future. In young adults, physical defects which may be readily overcome often progress and become in later years a serious handicap that cannot be corrected. The student who graduates ought to be a distinct asset to the State. It is for this purpose that the "Periodic Health Examination" has been inaugurated.

Emergency Service on the Campus. During office hours, in the event of an emergency or accident of such a nature that the patient is unable

to come to the Student Medical Service Office, call Campus 461. A physician will immediately respond to the call. Immediate ambulance service for students can be secured by calling the campus telephone operator (Dial O) and giving the exact location where the ambulance is needed.

STUDENT AUTOMOBILES

The University does not bar the use of automobiles by students. However, students can be given only very limited parking space on the campus, and the use of autos is discouraged. Unless the student drives a long distance to and from his home each day or is physically incapacitated, he does not need a car while attending the University. The cooperation of parents in this matter is earnestly desired.

ADMISSION

METHOD OF ADMISSION

The admission of students to the University is in charge of the Entrance Board, which determines the credits that shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the University Examiner, Ohio State University, Columbus.

ADMISSION TO COURSES LEADING TO A DEGREE

For complete entrance credit, an applicant for admission must be a graduate of a high school of the first grade or obtain credit by examination for fifteen entrance units.

For admission by examination or by certificate see the Bulletin of General Information.

DISTRIBUTION OF UNITS

As a basis for the most advantageous arrangement of a college course, applicants are advised to present the following units for admission: three in English; one in American history and civics; one in algebra; one in geometry; one in physics or chemistry; one in botany, zoology, or physiology; two in one foreign language; and five as choice may direct. The exact requirements of the college curriculum are stated on pages 45 to 51.

ENTRANCE CONDITION IN ALGEBRA

A student who does not present for entrance one unit of algebra (through quadratics) will be admitted with a condition in this subject. This deficiency must be made up outside of university classes and the student must pass an entrance examination in algebra before entering upon his second year of residence.

SPECIAL STUDENTS OF MATURE YEARS

A person of mature years who is unable to meet the foregoing entrance requirements in all respects, under certain circumstances, may be permitted to matriculate for specified courses for which he can demonstrate adequate qualifications. An applicant under twenty-one years of age will not be considered. Inquiry concerning such admission should be addressed to the Entrance Board, and to receive consideration must reach the Board not less than ten days in advance of the opening of the Quarter. A personal interview with an applicant for admission as a special student is desired.

ENTRANCE TEST

The Ohio State University Intelligence Test, which is required of all students entering the University, has been approved by the State

Department of Education as the entrance test to be administered by the College of Education in accordance with the statutory requirement (Ohio General Code, Sec. 7659), which prescribes that all applicants for admission to teacher training institutions in Ohio must pass an entrance examination.

Only those students successful in passing this entrance test will be permitted to register in the College of Education in teacher-training courses. During the school year 1930-1931, for example, the entrance test scores of approximately twenty per cent of all entering freshmen were too low for admission to teacher-training courses.

As explained on page 26 of this *Bulletin*, the test is given at the opening of each Quarter of the academic year and at the beginning of each term of the Summer Quarter. Persons desiring to qualify for admission may, if they so desire, request the University Examiner to grant special permission to take this test at a regularly scheduled time prior to the beginning of the First Quarter or term of residence. Such application must be presented at least two weeks prior to the date set for the test. The test will be given on the following dates during the academic year 1931-1932; June 20, 1931; July 25, 1931; October 3, 1931; January 9, 1932; April 2, 1932. A student failing to pass the intelligence test on the first trial will be given a re-test within one week after the initial test. Upon a second failure, the student is not thereby excluded from the University, but is not eligible to continue in the College of Education.

Students transferring to the Ohio State University from another institution which administers the Ohio State University Intelligence Test, or from a high school in Ohio which has administered the test to seniors, may present to the University Examiner with the transcript of credits a certified statement (on Form 2662) of the record made on the Ohio State University Intelligence Test at the other institution in lieu of taking the test at the Ohio State University.

REGISTRATION

FRESHMAN WEEK

All Freshmen are required to be present at the University for a special Freshman Program which precedes the opening of the University. This program will begin on Wednesday, September 23, and continue through the following Monday, September 28. This session is known as Freshman Week.

During this period Freshmen will become familiar with the Campus. They will be given needed information on the history and traditions of the University, as well as definite information on student activities and eligibility requirements. There will be lectures and discussions of vital importance to any student beginning his college career.

Intelligence tests, physical examinations, and placement tests are also a part of the Freshman Week Program.

The program of Freshman Week is planned to give students, new to the Campus, an opportunity to adjust themselves to new conditions before the regular routine of class-room work begins.

Freshmen must be present on the opening date, September 23, for the first meeting on that day. A penalty of \$5.00 for each day of absence will be imposed. This is the usual penalty for late registration. The exercises of Freshman Week will be of the greatest benefit to the Freshmen and attendance upon them is required. All cases of failure to appear on this day or to be present at any of the exercises of Freshman Week will be reported to the President for action.

All Freshmen are urged to complete their registration and pay their fees before September 23, in order that they may be free to participate in the program of Freshman Week.

REGISTRATION

Under the Quarter plan each student will present his program of studies for only one Quarter at a time. Election cards for registration are obtained from the Registrar and are ready for distribution approximately two months prior to the opening of the Quarter. The exact date will be published in the Official Daily Bulletin and definite days will be announced during which every student in residence will be required to file his program of studies for the following Quarter. Persons who are not in residence may register in person or by mail at any time after the election cards are available for the following Quarter. Fees may be paid as soon as fee cards have been received by the student from the Registrar. Students who have registered sufficiently early usually receive fee cards approximately three weeks prior to the opening of the Quarter. *It is to the advantage of all students to register as early as possible, since the size of many sections is limited and they are completely filled early during the registration period.*

TIME OF REGISTRATION

All undergraduate students are expected to register and pay their fees *before* the day designated in the University Calendar for classes to begin, and to report promptly to their classes on the first day that classes are scheduled. Class work begins the day following the last day announced for the payment of fees and all undergraduate students are expected to have completed registration and to report promptly to their classes.

Applicants presenting themselves after the opening of the Quarter can be admitted only for exceptional reasons and by action of the Executive Committee of the College. In general, a student who is permitted to enter after the close of the first week of a Quarter will be given a schedule diminished by one full course below the normal requirement for that student.

PROCEDURE FOR REGISTRATION

NEW STUDENTS.—Registration consists of the following steps in the order indicated. *Unless the student follows these instructions in every detail his registration in the University is not complete.*

(1) The student should secure:

(a) An admission card from the University Examiner. (For necessary entrance credentials see Requirements for Admission, page 23.)

(b) An election card or study-program card from the Registrar's Office. This card must be approved by the Secretary of the College of Education and also by the Schedule Committee.

(c) A fee card from the Registrar's Office. On this card the student will be assessed all incidental, tuition, and laboratory fees. The fee card must be presented to the Bursar when the student pays his fees. All fees must be paid before the student will be admitted to classes. *Students should not attempt to pay fees without a fee card as this will only delay registration.*

(d) A University directory card from the Registrar's Office. Each year upon entering the University every student is required to file in writing, in the Office of the Registrar, his local address and his home address on the blank provided for this purpose. He must report promptly to the Registrar's Office all subsequent changes in either address, as long as he is connected with the University.

(2) Every Freshman must report for a Physical Examination upon the dates appointed in the Freshman Week Program. Entering students other than Freshmen must report for a Physical Examination upon the date of appointment as assigned by the Department of Physical Education. A penalty of \$1.00 will be assessed for failure to keep appointment for physical examination or for change in date of physical examination.

Men should report to the Medical Examiner for Men at the Men's Gymnasium.

Women should report to the Medical Examiner for Women at Pomerene Hall.

(3) Every new student entering the University is required to take an Intelligence Test under the direction of the Department of Psychology,

upon the dates appointed in the Freshman Week Program or on the date announced in the University Calendar. (See page 3.)

(4) Every woman student must register with the Dean of Women at her office in Pomerene Hall during the first week of each Quarter. Registration closes Saturday at 12 noon. A penalty of \$5.00 will be assessed for failure to comply with this rule. (See page 31.)

STUDENTS IN CONTINUOUS RESIDENCE.—Students who have been in continuous residence in the University will proceed as follows. They should secure:

(1) An election card or study-program card, which must be approved by the Secretary of the College of Education and also by the Schedule Committee. This card may be obtained at the Registrar's Office.

(2) A fee card from the Registrar's Office, on which will be assessed all incidental, tuition, and laboratory fees. This card must be presented at the Bursar's Office and all fees paid before the student will be admitted to classes.

(3) Every woman student must register with the Dean of Women at her office in Pomerene Hall during the first week of each Quarter. Registration closes Saturday at 12 noon. A penalty of \$5.00 will be assessed for failure to comply with this rule. (See page 31.)

FORMER STUDENTS.—A former student who has not been in continuous residence during the preceding year or was not in residence during the preceding Quarter should go at once to the Dean or Secretary of the College for approval of his re-admission. He then follows the same procedure as a student in continuous residence.

STUDENTS TRANSFERRING TO ANOTHER COLLEGE IN THE UNIVERSITY.—A student who desires to transfer from this College to another college of this University must make his application for such transfer to the University Examiner. This transfer must be approved by the University Examiner before the student will be permitted to proceed with his registration in the college which he is proposing to enter.

FEES AND EXPENSES

All University fees must be paid at the opening of the Quarter as a condition of admission to classes. Registration is not complete and admission to classes will not be approved until all fees have been paid. A fee card should be secured in the office of the Registrar and the fees paid in the office of the Bursar. All fees must be paid by the close of the day preceding the first day of recitations. A penalty of \$5.00 for each succeeding day or fraction thereof will be assessed for failure to comply with this rule except in the case of a graduate student or a new student granted late registration by the Executive Committee of his college. A student granted late registration must pay his fees within twenty-four hours of the date assigned for his registration or the penalty will be imposed. A fee of \$1.00 will be charged for each duplicate receipt for fees.

Registration is not complete until all fees have been paid. No student will have any privileges in the classes or laboratories until all fees and deposits are paid.

Since all fees are due and payable as a part of the student's registration, no person should come to the University for registration without money sufficient to cover all of his fees and deposits.

1. Matriculation fee (non-returnable)

Required of every student on first admission to the
University

\$10.00

2. Incidental fees

Incidental fees do not vary with the number of courses taken

Quarter fee for a resident of Ohio.....

20.00

*Quarter fee for a non-resident of Ohio.....

~~55.00~~

75

3. Special fees

(a) Ohio Union (Men) (Each Quarter).....

1.00

Women's Union (Women) (Each Quarter).....

1.00

The Union fees entitle the students to all the privileges of the Unions

(b) Student Activities and Medical Service fee.....

1.00

Required of all students each Quarter; to be used in support of Student Government Activities and the Student Medical Service

(c) Gymnasium fee.....

1.00

Required each Quarter of all students taking Gymnasium work. It includes locker and towel service

(d) Swimming fee.....

1.00

Women students enrolled in swimming classes are required to pay a Natatorium deposit for the use of bathing suits

(e) Laboratory Breakage deposit — Amount varies with course

from 1.00

to 20.00

* Non-resident fee. See page 29.

Students are required to pay for all materials consumed in laboratory work. The laboratory deposit must be made at the time of registration before the student may enter the laboratory. All laboratory supplies are sold to students at the Laboratory Supply Store, Chemistry Building, and charged against the deposits (See page 30.). Instructors shall not permit students to engage in laboratory work unless the student has shown a receipt from the Bursar for deposit paid

(f) **Deposit for uniform (for Freshmen) (approximately) 27.00

(g) Graduation fee

A graduation fee is required of each person receiving a diploma. The fee must be paid thirty days before the close of the Quarter in which the candidate expects to receive his degree

Bachelor's degree..... 5.00

Master's degree 10.00

Doctor's degree..... 10.00

** Refund on Deposit. See page 30.

NON-RESIDENT FEE

Every student who is not a legal resident of the State of Ohio is required to pay a non-resident fee of ~~\$35.00~~ each Quarter (or ~~\$20.00~~ each term of the Summer Quarter) of his residence in the University in addition to other University fees. The burden of registering under proper residence is placed upon the student. If there is any possible question of his right to legal residence the matter should be brought to the attention of the Registrar and passed upon, previous to registration or the payment of fees. Any student who registers improperly under this rule shall be required to pay not only the non-resident fee but shall be assessed a penalty of \$10.00. Students who do not pay this fee within thirty days after they have been notified that the non-resident fee has been assessed against them, will have their registration in the University cancelled.

No person shall be considered eligible to register in the University as a resident of the State of Ohio unless he has been a bona fide resident in the State twelve consecutive months next preceding the date of his original enrollment, and no person shall be considered to have gained or lost a residence in this State for the purpose of registering in the University by any conduct of his own while he is a student in the University; but persons whose legal residence follows that of other persons, as hereinafter provided, shall be considered to have gained or lost legal residence in this State for such purpose while students in the University according to changes of legal residence of such other persons, except that such legal residence shall not be considered to be so gained until twelve months after such other person becomes a legal resident of this State.

MINORS: The residence of minors shall follow that of the legal guardian, regardless of emancipation but in case a resident of Ohio is appointed guardian of a non-resident minor, the legal residence of such minor for the purpose of this rule shall not be considered to be established in the State of Ohio, until the expiration of twelve months after such appointment.

WIVES: The residence of wives shall follow that of husbands.

ALIENS: Aliens who have taken out first citizenship papers and who have been residents of Ohio for twelve months next preceding the date of their enrollment in the University, shall be regarded as eligible for registration as residents of Ohio.

TEXTBOOKS

Textbooks. Students should not purchase textbooks until they are advised by the instructors of their respective classes.

ROOM AND BOARD

Room and Board. (See Living Arrangements, page 34.)

REFUND ON FEES

Fees are not returnable except in case of sickness and for causes entirely beyond the control of the student. No part of the fees shall be returned for voluntary withdrawal of the student or enforced withdrawal thirty days after the registration. Students withdrawing under discipline forfeit all rights to the return of any part of the fees. No fees will be returned in case of withdrawal of students until thirty days have elapsed from the date of withdrawal.

On Tuition Fees. To be entitled to a return of fees, the student must withdraw during the first thirty days of the Quarter and must present the permission to withdraw, given by the Dean, to the Bursar within this thirty-day period. Unless the case is entirely exceptional no more than one-half of the fee paid will be refunded.

On Laboratory Deposits. If a student is forced to withdraw from a laboratory course during a Quarter, he must first secure permission from his Dean.

No portion of a laboratory deposit of \$5.00 or less shall be returned, unless the course is officially dropped by the student within thirty days after the payment of the deposit.

On a laboratory deposit of \$6.00 or more the unexpended part of the deposit is returnable if called for on or before the close of the Spring Quarter of the fiscal year in which the deposit has been made.

An order for refund for the unexpended portion of the deposit may be obtained by applying at the Laboratory Supply Store, Chemistry Building. The unexpended part of the deposit will be paid at the Bursar's Office on presentation of the order for refund.

On Deposit for Uniform. Uniform is furnished Freshmen upon deposit of approximately \$27.00 being made with the Contractor at the time

the measurement is taken. Last year the Basic Course students were paid commutation of uniform amounting to \$10.00 each for the academic year. This allowance is pro-rated monthly to students who do not remain in attendance during the entire academic year. This allowance is paid only at the close of the Spring Quarter.

SPECIAL FEES—PENALTIES

PENALTY FOR ABSENCE DURING FRESHMAN WEEK

Freshmen must be present on the opening date, September 23, for the first meeting on that day. A penalty of \$5.00 for each day of absence will be imposed. This is the usual penalty for late registration. The exercises of Freshman Week will be of the greatest benefit to the Freshmen and attendance upon them is required. All cases of failure to appear on this day or to be present at any of the exercises of Freshman Week will be reported to the President for action.

PENALTY FOR FAILURE TO REGISTER WITH THE DEAN OF WOMEN

Every woman student must register with the Dean of Women at her office in Pomerene Hall during the first week of each Quarter. Registration closes Saturday at 12 noon. A penalty of \$5.00 will be assessed for failure to comply with this rule.

PENALTY FOR FAILURE TO KEEP APPOINTMENT FOR PHYSICAL EXAMINATION

A fee of \$1.00 will be assessed for failure to keep appointment for Physical Examination or for change in date of Physical Examination.

PENALTY FOR RE-REGISTRATION

When checks given for payment of fees are not paid on presentation at bank, registration will be cancelled and receipts given considered null and void. A penalty of \$5.00 will be assessed for re-registration.

FEE FOR LATE FILING OF ELECTION CARDS

A student who fails to file his election card within the required time (see page 25) will be assessed a fee of \$1.00 for each day of delay, the maximum fine being \$5.00.

FEE FOR CHANGES IN APPROVED ELECTION CARDS OR SCHEDULES

No changes will be made in approved election cards or schedule assignments at the request of the student without (1) the consent of the Dean or Secretary, (2) the payment of \$1.00 for each change involved. Unless exceptional reasons can be given, all such changes must be made during the first three days of the Quarter.

FEE FOR SPECIAL EXAMINATIONS

A fee of \$2.00 will be charged for each special examination. A student who is unable to take an examination in accordance with the official schedule may obtain permission to take a special examination by complying with the following requirements in the order specified:

(1) Obtain the written consent of the instructor concerned on the blank provided for the purpose.

(2) Obtain the approval of the Dean of the College.

(3) Obtain the endorsement of the Bursar after the payment of the special fee of \$2.00.

Unless there is an imperative reason to the contrary (such as prospective absence during the next Quarter) all special examinations shall be held after the date of the regular examination.

COST OF A YEAR'S WORK

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year.

The total cost of a year's work—three Quarters, will depend considerably upon the course pursued. In some courses, such as chemistry, considerable material is used by the student, and this must be paid for by him. The cost of books is an item which varies greatly with the course. In general, it may be said that the legitimate cost a year ranges from \$600 to \$650 exclusive of traveling expenses.

In order to furnish information, we have listed below an estimate of the average payments required by the University for the Freshman year and have estimated the cost for room and board at a safe price. These two items are sometimes reduced slightly where two students occupy the same room and where boarding clubs are economically managed. Fees to the University are paid at the beginning of each Quarter.

ESTIMATE OF EXPENSES

Matriculation Fee (non-returnable).....	\$ 10 00
Incidental Fee	60 00
Ohio Union	3 00
Activities and Medical Fee.....	3 00
Gymnasium Fee	3 00
Deposits to cover laboratory materials and breakage..	30 00
Deposit to cover uniform..... (approximately)	27 00
Books	50 00
Board—36 weeks at \$7.00 a week.....	252 00
Room rent at \$15.00 a month.....	135 00
General Expenses	100 00
Total	<hr/> \$673 00

The item of *general expenses* is always subject to the personal habits of the individual, and varies according to the degree of economy exercised.

NOTE: In order to meet all the necessary expenses of registration, deposit for uniform, books, and other expenditures incident to securing a room and board, a student should come prepared to spend from \$125 to \$150 during the first ten days of a Quarter. After that period, his board and room rent will constitute the major part of his expenses.

ASSISTANTSHIPS, FELLOWSHIPS, AND SCHOLARSHIPS

GRADUATE ASSISTANTSHIPS OPEN TO GRADUATE STUDENTS

In order to encourage graduates of this University and of other similar and approved institutions, especially those in Ohio, to continue their studies and to pursue advanced work leading to the higher degrees, the University has established graduate assistantships in several departments. Graduate assistants are elected for the year—four Quarters. During three Quarters, usually the Autumn, Winter, and Spring, they must devote approximately one-third of their time to assisting in the work of the department in which they are specializing; during the remaining Quarter they are free to carry on their work at the University or elsewhere. Each graduate assistant must confer with the chairman of the department in which he is specializing concerning the Quarters that he must be in residence. A graduate assistant receives a stipend of \$500, payable in nine monthly installments, during the three Quarters in which he is rendering service. In addition all fees are remitted except a matriculation fee of \$10.00 if the assistant has never attended the University. If a graduate degree is obtained, he must also pay a diploma fee of \$10.00 as well as a fee for printing the abstract of his thesis or dissertation (\$5.00 in the case of the Master's degree and \$50.00 in the case of the degree of Doctor of Philosophy).

Students desiring to apply for Graduate Assistantships in any academic year *must present their applications not later than March 1 of the preceding year*. Application blanks may be obtained upon request by addressing the Dean of the Graduate School. The appointments to graduate assistantships are made annually in April.

UNIVERSITY SCHOLARSHIPS AND FELLOWSHIPS

In addition to the graduate assistantships, a limited number of scholarships and fellowships have also been established. The scholarships are open to students having a baccalaureate degree from an approved institution, and have a value of \$300 with exemption from all fees, except the matriculation fee of \$10.00. The fellowships, on the other hand, are open only to students who have at least the Master's degree or its equivalent, and have a value of \$500 with like exemption from all fees, except the matriculation fee. If a graduate degree is obtained, a Scholar or a Fellow must pay a diploma fee of \$10.00 as well as a fee for printing the abstract of his thesis or dissertation (\$5.00 in the case of the Master's degree and \$50.00 in the case of the degree of Doctor of Philosophy). Scholars and Fellows are selected on a basis of merit and must devote all their time to graduate work, including research. They are elected for the year—four Quarters, but are required to be in residence only three Quarters, usually the Autumn, Winter, and Spring. Candidates for these positions must file their applications not later than March 1. Application blanks may be obtained by addressing the Dean of the Graduate School. Appointments are made annually on April 1 in accordance with the regulations of the Association of American Universities, of which Association the University is a member.

LIVING ARRANGEMENTS

The President of the University has the authority to supervise living arrangements of students not residents of the city of Columbus and to order the immediate withdrawal of any student from any boarding or lodging house in which the surroundings are undesirable.

ROOMS AND BOARD FOR MEN

The University does not possess any dormitory facilities for men. Furnished rooms can be obtained at prices varying from \$10.00 to \$15.00 a month, and the cost of the table board in the clubs and restaurants near the University is from \$6.00 to \$8.00 a week. Board can be secured at the Ohio Union at reasonable prices.

Board with furnished rooms can be obtained in private families within convenient distance from the University at rates varying around \$10.00 a week.

MEN'S HOUSING BUREAU

The absence of dormitories for men at Ohio State University causes the men students to reside in private rooming houses in the University district. In order to assist the students (especially those entering for the first time) in finding desirable rooms at the greatest saving, the University has created the Men's Housing Bureau, located in the office of the Dean of Men, first floor, Administration Building.

Classified lists of rooms available for every student and for any number of students are always available at this office. Boarding houses are likewise listed.

If the student signs the "Rooming House Agreement," he shall be expected to be responsible for the rental price of the room as specified in the agreement, unless he can present satisfactory reasons to the Men's Housing Bureau for moving out before the expiration of that period, or, unless he can secure a satisfactory substitute. If he moves out before the expiration of the Quarter without presenting a satisfactory excuse he shall forfeit one month's rent.

The University warns students not to rent rooms which have not been placed on the approved list by the Men's Housing Bureau. Anyone renting a room which is not on the approved list does so at his own risk.

WOMEN STUDENTS

The Ohio State University is open to women upon the same conditions and by the same methods of registration offered to men. Every woman student must register with the Dean of Women at her office in Pomerene Hall during the first week following the opening of each Quarter. Registration closes Saturday at 12 noon.

NOTE: A penalty of \$5.00 will be assessed for failure to comply with this rule.

LIVING ARRANGEMENTS FOR WOMEN

All living arrangements for women are under the supervision of the Dean of Women. Except in the case of rooms in the dormitories, in University houses listed in the Housing Booklet and in the sorority

houses these arrangements must be submitted to the Dean of Women before completion, as explained below. In the case of the dormitories, University houses, and sorority houses the arrangements may be made directly and reported to the Dean of Women at the time of registration in her office each Quarter.

ACCOMMODATIONS IN DORMITORIES AND OTHER UNIVERSITY HOUSES

It is the thought of the University that the women students should live in supervised places of residence. The University offers its protection and counsel to those undergraduates who live according to the five following plans:

- Plan 1. In Freshman Dormitories
- Plan 2. In University Houses
- Plan 3. In Sorority Houses
- Plan 4. In private homes working for room and board
- Plan 5. In privately operated dormitories

If the parents wish their daughters to receive the benefit of the University protection under these plans, they should make application on the blanks which are furnished for that purpose.

A Freshman living under Plan 1 must expect to stay for three consecutive Quarters in the house in which she has chosen to live. She may, however, be released to go to her sorority house at the beginning of the Spring Quarter. Parents are asked to sign this yearly contract for their Freshman or Sophomore daughter in duplicate and send it directly to the Dean of Women, Pomerene Hall, Ohio State University.

A Junior or Senior living under Plan 2 may sign her own contract for the Quarter. She is expected to stay in one University House during the whole academic year unless a consultation between the Head Resident, Dean of Women, and the student makes plain that the student's best interests will be served by changes of living arrangements.

Certain Junior and Senior students, because of their special fitness are chosen to advise and help the Freshmen in the dormitories. These upperclassmen are called Student Assistants to the Dean of Women, and live in the halls of residence with the Freshmen.

Sophomore, Junior and Senior active members of sororities may live under Plan 3. Sophomore, Junior and Senior pledges are given permission to live in their sorority houses upon application to the Dean of Women.

Those students who wish to live under Plan 4 report directly to the office of the Dean of Women for application blanks and assignments to homes. Since these homes are inspected and under University supervision, each student is expected to live in one home so long as the conditions are mutually agreeable to the student and the householder.

If parents do not wish their daughter to live under any one of the above plans, but rather that she live with a relative or friend, they must send to the office a written request to this effect. These requests must be on file before the date on which this residence takes place. For in-

stance, in the Autumn Quarter such requests should be made by September 30.

Any student living in a private house at the request of her parents will be given counsel and protection when she seeks it. However, the University cannot offer the same kind of supervision that it gives in the University Houses. Not more than two students will be permitted to live in any one house under a private arrangement of this kind.

The two church-owned dormitories, Westminster and St. Hilda's, make somewhat different stipulations for contracts which should be taken up directly with their respective superintendents.

A deposit fee is paid upon application for a room. If the room is held for three consecutive Quarters, this deposit is returned in June. If the student moves for reasons sanctioned by the Head Resident and Dean of Women, the fee is returned; if not sanctioned, it is forfeited. Such a deposit will be refunded upon withdrawal from the University for any cause.

Graduate students will be furnished with a list of rooms in private houses upon request.

NOTE: Students may engage rooms in the dormitories and University houses by direct correspondence with the superintendents and head residents without first consulting the Dean of Women. The Housing Booklet with the names of these people will be furnished upon request.

RESIDENCE HALLS FOR WOMEN

Under the rules of the Faculty, all Freshman women are required to room and board in the University Residence Halls during their first year in the University.

The University has three modern Residence Halls under its jurisdiction, Oxley, Mack, and Neil Halls. All three Halls are governed by student government with the advice and supervision of the House Superintendent.

Oxley Hall is located at the southwest corner of the campus on Neil Avenue. It has three floors and accommodates seventy-seven students. Each room has hot and cold running water. There are bath rooms on each floor with three tubs and two showers. The rooms are single, double, or in suites of three rooms, this arrangement prevailing on all floors. There is also a study room, parlors, music room, sun parlor, dining room, and laundry. The laundry is open to students every day except Sunday and Monday.

The rates for board and room per Quarter vary according to room chosen, \$122.00 for single rooms, \$116.00 and \$118.00 for double rooms, \$110.00 for middle rooms in suites.

Mack Hall was opened October 1, 1923. It is joined to the south side of Oxley Hall by a cloister and accommodates one hundred girls. It contains four floors with hot and cold running water in each room. There are bath rooms on each floor with two tubs and two showers. The rooms are single, double, or double suites or single suites. There are parlors, study halls, dining room, and guest dining room. A kitchenette is located on each of three floors.

The rates for board and room per Quarter vary according to the room chosen, single rooms and single rooms in suite \$122.00, double rooms and double rooms in suite \$116.00 to \$118.00, large room for three \$110.00.

Neil Hall, under the University management since September 1, 1928, is situated in the block just south of the campus, between Tenth and Eleventh Avenues on Neil Avenue. It contains four floors, with a similar arrangement of rooms on each floor—double rooms with connecting bath and a few single and double rooms without bath. The Hall accommodates two hundred and seventy girls. There is a large lounge, a large reception room, small parlors, and dining room. Each floor is equipped with a kitchenette.

The rates for board and room per Quarter vary according to room chosen, double rooms with connecting bath \$138.00 to \$145.00, double room with bath \$150.00, single room without bath \$128.00, and double room without bath \$125.00.

For information, including rates, rules, etc., concerning the Residence Halls, write the Superintendent of Residence Halls, Oxley Hall, Ohio State University.

PRIVATE ROOMING HOUSES FOR WOMEN STUDENTS WHO ARE NOT FRESHMEN

Westminster Hall under the supervision of the Presbyterian Church and St. Hilda's Hall under the supervision of the Episcopal Church are open as places of residence to women students who are not Freshmen. For information write the Superintendent of Westminster Hall, 52 Fifteenth Avenue, or the Superintendent of St. Hilda's Hall, 169 West Eleventh Avenue.

There are also about twenty-five privately owned rooming houses under the supervision of the Dean of Women. A booklet with the addresses of these houses will be furnished upon request.

As renting a room by mail is not always satisfactory, a preliminary visit to the city for that purpose or arrival a day or two before registration is advisable. Only those houses are approved which offer accommodations for women exclusively and which meet the required standards in housing. When meals are offered, resident students are to take their meals in the house.

Rooms should be engaged from the householder direct, at which time a retaining fee of \$10 is to be made, which will be retained until June 1, or until the student is permitted to move. If the arrangement is broken, notification of the same having been given to the householder two weeks before registration day, the fees will be returned. Otherwise the householder will retain the fee.

Housing contracts are to be used by all householders. One copy is kept by the householder and a second copy is filed by her in the office of the Dean of Women. The student should read the contract carefully and know what she is signing. If a student desires to move, she should notify her householder two weeks before the end of the Quarter.

THE HEALTH OF WOMEN STUDENTS

It is the purpose of the University to safeguard and promote the health of students in every reasonable way. The Physical Examinations required of all entering women and Sophomore women are used in advising the students as to defects which need treatment or correction, as to the type of Physical Education work adapted to the needs of each student; and, in special cases, as to the academic load and outside work. Students needing special attention are watched through the year by the Medical Advisers. For advice pertaining to participation in Physical Education activities, the Medical Advisers hold daily office hours in Pomerene Hall. Students wishing medical advice or treatment should report to the Student Medical Service, Hayes Hall, where they may consult the women physicians.

The Department of Physical Education offers to University women opportunities for the development of habits which should aid them in the preservation of sound health and physical fitness. Through the acquirement of health habits the individual is enabled to establish a high standard of efficiency while in the University and to build a foundation which should influence her life after leaving the University.

SELF-SUPPORT

FOR MEN

The University cannot promise work to students who expect to work their way through college. Many students find work in private families, in offices, and in various occupations, by means of which they defray a portion of their expenses. A person of ability and energy who is master of a trade, or who can do good work of any kind, can generally find employment, but prospective students are cautioned against depending wholly upon such uncertain sources of income.

Students should understand that where they attempt entire or partial self-support they should lengthen the term of study by applying for a part-time schedule. Special arrangement of class hours to accommodate a student's outside work is not possible. All outside work should be arranged with due regard to University obligations and classes which may occupy the Saturday morning hours as well as the late afternoon hours.

An employment bureau is maintained at the University Y. M. C. A., in Ohio Union, where the names of those seeking work and of those desiring workers are recorded. Very much depends, however, on the individual's power of initiative. Students should not come to the University expecting others to find places for them.

FOR WOMEN

Part-time placement of undergraduate women is arranged through the office of the Dean of Women. During the college year this office is open every week day except Saturday afternoon. Any woman student is welcome if she desires information concerning suitable work.

Few students are equal to the task of carrying a full University schedule successfully and at the same time earning sufficient money to meet their entire expenses. It is therefore important that students coming to the University for the first time be prepared to pay their expenses for the first Quarter. The opportunities for earning increase as students become acquainted with conditions and prove themselves able to carry both University and outside work. Young women must, however, recognize that competition is very keen as there are many more students than positions.

Students should understand that where they attempt entire or partial self-support they should lengthen the term of study by applying for a part-time schedule. Special arrangement of class hours to accommodate a student's outside work is not possible. All outside work should be arranged with due regard to University obligations and classes which may occupy the Saturday morning hours as well as the late afternoon hours.

RULES AND REGULATIONS

STUDENT RESPONSIBILITY FOR COURSES

ADHERING TO A COURSE

Every student will be held responsible for the performance of all work assigned to him on his election card and for regular attendance upon his classes.

Every student, except a special student, shall be required to follow the prescribed order of courses in his curriculum. In case of temporary irregularity due to failure, or other causes, the student shall be required to select such courses in his curriculum as will make him regular as speedily as possible.

REPEATING HIGH SCHOOL WORK

If a student enters a course that presupposes a unit in the high school in the same subject (a course in foreign language or Chemistry 411) and finds himself unable to carry this course, the Dean of his own initiative, or upon request of the instructor concerned, may transfer the student to a more elementary course. Upon completion of this course, the student will receive three hours credit instead of five hours.

REPEATING A COURSE

A student who repeats a course for which he has received collegiate credit for work done at this University or elsewhere, must meet all the requirements of the course, including regular attendance and examinations. His final grade will be substituted for the grade already recorded but he will not receive any additional credit for the course.

CHANGING A COURSE

No course may be changed except by favorable action upon a formal written request presented by the student to the Secretary of the College in which he is enrolled.

DROPPING A COURSE

A student is not at liberty to cease attending a course without permission of his Dean, or change a class section without the authorization of the Registrar. Disregard of this rule will make the student liable to a failure in the course and to discipline by the Executive Committee of his College.

WITHDRAWAL FROM A COURSE

A student shall not be permitted to withdraw from a course during the last six weeks of the Quarter without receiving a failure in the course, unless he secures the joint permission of the Dean of the College and the instructor concerned.

WITHDRAWAL FROM THE UNIVERSITY

A student who desires to withdraw from the University must apply to the Dean of the College for permission to withdraw in good standing. *If the student leaves the University at any time during the Quarter without communicating with the Dean of his college, he will be marked as having failed in all his courses for the Quarter.* If a personal interview is impossible, the Dean must be notified by mail. In order to retain his right to voluntary return, the reasons given for withdrawal must be satisfactory to the Dean, and must be so endorsed at the time the application is filed.

The written permission of the Dean shall be filed with the Registrar at once by the College Secretary that the proper entry may be made upon the University records.

If the permission to withdraw is withheld by the Dean and the student absents himself from the University notwithstanding, he will sacrifice his right to return and can obtain readmission only by petition to the Executive Committee of his College, as in the case of a student who has lost his standing by reason of failures.

No student may withdraw in good standing from the University within two weeks of the beginning of examinations unless he can show that his record to date is satisfactory.

When a student withdraws from the University during a Quarter his parent or guardian shall be notified of the fact by the Secretary of the College.

ABSENCES

OCCASIONAL ABSENCES

All occasional absences shall be adjusted with the instructors in whose classes they occur. Each department shall frame its own rules relative to occasional absences, but the Administrative Council shall have power to set aside an unreasonable rule. In no case shall absence be held to excuse a student from making up the work lost.

EXCESSIVE ABSENCE

If a student is absent from a course to such an extent as to imperil his credit, or is notably irregular in attendance, it shall be the duty of the instructor concerned to report the facts promptly to the Dean of the College in which the student is enrolled, and the Dean shall deal with the matter as a case of discipline.

ABSENCES BEFORE OR AFTER A MID-QUARTER VACATION

A student absent without excuse from a scheduled hour of work on a day immediately preceding or following a mid-quarter vacation (such as Thanksgiving, Washington's Birthday, Memorial Day, Independence Day) shall have a penalty of three hours (and 5.4 points) added to the requirements for his graduation. It shall be the duty of each instructor to report all such absences to the Dean of the College within five days following the vacation. For legitimate reason the Dean may excuse

such absences, and he shall certify to the Registrar the list of all persons upon whom the penalty is to be imposed. The Registrar shall enter the penalty upon the student's record card.

NOTE: The object of this rule is to prohibit the extending of a holiday into a longer vacation. If the holiday falls upon a Friday or Monday, Saturday will not be counted for those students who have no work on that day, nor will the fact that a student has scheduled work on Saturday release him from that work or authorize him to be absent the following Monday. Sunday shall not be counted either as the day before or the day after a holiday.

THE MARKING SYSTEM AND POINT SYSTEM

The grade marks given in the several Colleges of the University are: A—Excellent; B—Good; C—Average; D—Poor; E—Failed.

K (Credit) shall be used for work credited from other institutions and by the University Examiner only.

A value in "Points" is assigned to each of these grades as follows:

For each hour of A grade, 4 credit points shall be allowed.

For each hour of B grade, 3 credit points shall be allowed.

For each hour of C grade, 2 credit points shall be allowed.

For each hour of D grade, 1 credit point shall be allowed.

For each hour of K grade, 1.8 credit points shall be allowed.

The grade of E receives no credit either in hours or points.

The mark E cannot be removed by re-examination. (For removal of failures see page 43.)

POINTS REQUIRED FOR GRADUATION

The number of credit points required for graduation shall amount to not less than 1.8 times the number of credit hours undertaken by the student during his course as shown by his record card.

GRADUATE CREDIT FOR SENIORS

A Senior whose full time is not required in order to complete the work for his baccalaureate degree may select certain courses for graduate credit, *but in order to do this the permission of the Graduate Council (Room 106, University Hall) must be obtained before registering for the courses.*

LOW STANDING

DISMISSAL AND PROBATION FOR LOW STANDING

At the end of each Quarter, the Dean of a College shall dismiss from the University any student who fails to earn at least two-thirds as many points as the number of credit hours for which he is scheduled. He shall place on probation any student not out under the above rule (1) who fails to earn at least five points in excess of the number of credit hours for which he is scheduled; or (2) who fails to pass in at least two-thirds of his work. The period of probation shall extend through one Quarter of residence. No student shall be placed on probation more than twice under penalty of dismissal from the University.

The Executive Committee of a College shall have power to place a student on probation at any time for a definite period when in their

judgment his scholastic standing is unsatisfactory. In every case of probation, the Dean of the College shall notify both the student and his parent or guardian.

DISMISSAL FOR LOW STANDING AFTER PROBATION

At the end of one Quarter of probation, the Dean of the College shall dismiss from the University any student: (1) who fails to earn at least five credit points in excess of the number of credit hours for which he is scheduled; or (2) who fails to pass in at least two-thirds of his work. In every case of dismissal the Dean shall notify both the student and his parent or guardian.

DISMISSAL FOR DEFICIENCY IN POINTS

A Dean shall refuse to register in the College he represents any student who has been registered in this University for nine Quarters and has not earned credit points equal to at least 1.7 times the number of hours undertaken during his residence and recorded on his record card. Moreover, a student who is eligible for registration for his tenth Quarter in the University, and who fails to maintain at least the ratio of 1.7 points per credit hour undertaken during any subsequent period of three consecutive Quarters of residence at the University, shall be ineligible for further registration. For good and sufficient reasons this rule may be waived in case of any individual student by a two-thirds vote of the Executive Committee of the College. A student entering the University from another institution will be regarded as though his entire residence had been at this University.

DISMISSAL BY SPECIAL ACTION

In cases not covered by the foregoing rules, if the preparation, progress, or success of a student in his assigned work is deemed unsatisfactory, the Executive Committee of the College shall have power to dismiss him from the University.

REMOVAL OF FAILURES

FAILURE IN A REQUIRED COURSE

At his first opportunity a student must repeat in class a required course in which he has failed, unless the Executive Committee of the College authorizes a substitute course. In a course continuing through two or more Quarters, a failure in any given Quarter must be removed by successful repetition in class before the student will be admitted to the work of the succeeding Quarter.

FAILURE IN AN ELECTIVE COURSE

A failure in an elective course may be removed by repetition in class, and must be so removed before a student will be allowed to proceed in a continued course. On petition, the Executive Committee of the College may excuse a student from repeating an elective course.

GRADUATION

POINTS REQUIRED FOR GRADUATION

The number of credit points required for graduation shall amount to not less than 1.8 times the number of credit hours undertaken by the student during his course as shown by his record card. (For Point System see page 42.)

GRADUATION FEE

A special graduation fee is required of each person receiving a diploma from the University. This fee must be paid thirty days before the close of the Quarter in which the candidate expects to receive his degree.

COMMENCEMENT—CONVOCATION

A special Convocation or Commencement shall be scheduled at the close of each Quarter for the conferring of degrees upon candidates who have fulfilled all the requirements of their respective courses.

ATTENDANCE AT CONVOCATION EXERCISES

All candidates for degrees are required to be present at their graduation convocation unless excused by the President. Only those students who are to receive their degrees at a given convocation may appear in the class procession on that occasion or be seated with the graduating class.

GENERAL AND SPECIAL CURRICULA

Two general classes of curricula have been provided, both of which lead to the degree of Bachelor of Science in Education.

The first of these provides a wide range of electives and seeks to train superintendents, principals, and teachers in high schools and rural schools. While the requirements are definite and fixed, the student may choose from a number of subjects the major branch in which he expects to qualify for teaching. Correlated with this will be minor subjects which he may teach.

The second class provides fixed courses, permitting comparatively little election, for the definite purpose of preparing principals, supervisors, and teachers in the elementary schools, teachers and supervisors in fine arts, music, home economics, industrial arts, and physical education; school nurses, teachers in schools of nursing, teachers and supervisors of commercial subjects, and teachers in part-time and continuation schools and classes.

NOTE: Curricula leading to the degrees Bachelor of Fine Arts and Bachelor of Music are described on pages 69 to 73.

REQUIRED SUBJECTS

Academic Subjects Required in All Curricula Leading to the Degree Bachelor of Science in Education

These requirements should be fulfilled during the Freshman and Sophomore years unless otherwise stated in the curriculum.

(1) English—ten Quarter credit hours.

English composition (English 401) five Quarter-credit hours and English literature (English 430, 442, 641, or 644) five Quarter-credit hours, must be taken by all students. Students who enter with less than three units in English will be assigned additional work in English to make up their deficiency.

(2) Biological Science—ten Quarter-credit hours.

A biological science shall mean botany, zoology, physiology, or anatomy. Ten Quarter-credit hours in one biological science must be taken in college, regardless of whether any biological science has been taken in high school.

NOTE: Students registered in the Fine Arts curriculum may take ten hours in Geology instead of ten hours in a biological science; if they take a biological science it must be Zoology. Students in the Music Curriculum are advised to offer ten hours of one biological science, but may offer ten hours in any other science as substitute, with the consent of the Chairman of the Department of Music. Students pursuing one of the three-subject outlines of sequences in chemistry, mathematics and physics on pages 74-75 are exempt from this requirement, but are advised to choose ten hours biological science as electives.

(3) Social Science—ten Quarter-credit hours.

A social science shall include a course in the Department of Economics, Geography, History, Political Science, or Sociology. The student must take in college ten Quarter-credit hours in one of the social sciences.

NOTE: Students who enter without high school credit in American History must meet this requirement by taking ten Quarter-credit hours in American History.

(4) Foreign Language.

Students who have credit for two units of some one foreign language taken in high school are not required to take any foreign language in college. Students who enter with less than this amount must take a minimum of three Quarters of one foreign language in college.

(5) Physics or Chemistry.

A student who enters without one unit in physics or chemistry must take two Quarters work in one of these subjects in college during the first two years of his residence.

(6) Mathematics.

As indicated under admission (page 23) every student is expected to have secured credit in high school for algebra through quadratics. Students who enter without this credit will be conditioned.

Professional Subjects Required in all Curricula Leading to the Degree Bachelor of Science in Education

(1) Psychology 401 and 407, ten Quarter-credit hours, required of all students; in the curriculum for Elementary Teachers, Psychology 609, three Quarter-credit hours.

Elementary Psychology 401, five Quarter-credit hours, must be taken by all students. When possible it is recommended that Psychology 402 be taken in addition to Elementary Psychology 401.

(2) History of Education 625 and 626, six Quarter-credit hours; in the curriculum for Elementary Teachers, History of Education 401, five Quarter-credit hours, instead of 625 and 626; in the curriculum in Industrial Arts Education, History of Education 625 only; in the curriculum in Music, History of Education 626 only.

(3) Principles and Practice of Education: 401, four Quarter-credit hours, required of all students; 440, seven Quarter-credit hours, for all students except those in the curriculum for Elementary Teachers, Supervisors and Principals; 410, four Quarter-credit hours, for students majoring in English, history, foreign language, mathematics, science, industrial arts education, music, science-nursing, commercial subjects and journalism; in the curriculum for Elementary Teachers, Supervisors and Principals, 406, three Quarter-credit hours, 441 ten Quarter-credit hours (instead of 440), 430, five Quarter-credit hours (instead of 410), 492, 493, 499 and either 494 or 496; for students majoring in non-biological sciences four Quarter-credit hours selected from 660, 661, 364, 365, 382, and 383; for students majoring in history and social sciences 663, five Quarter-credit hours, or 384 and 385, three Quarter-credit hours each; for

students minoring in history 700, three Quarter-credit hours, or 663, five Quarter-credit hours, or 384 and 385, three Quarter-credit hours each.

(4) School Administration 600 and 601, six Quarter-credit hours.

NOTE: Students in the Fine Arts, Music, and Physical Education curricula are not required to take School Administration 601.

(5) Survey of Education, one Quarter-credit hour.

NOTE: Required of all Freshmen; not open to students who enter the College of Education with Sophomore, Junior, or Senior standing.

(6) Practical Arts and Vocational Education 600, three Quarter-credit hours, is required of all men students, except those majoring in Physical Education and Music. Practical Arts and Vocational Education 541 is required in the Curriculum for Elementary Teachers, Supervisors, and Principals.

(7) A course in the teaching of the major subject, not less than three Quarter-credit hours. This course should be taken by the student before registering for Supervised Teaching in the major subject. Students majoring in English are required to elect both Principles of Education 714 and 662 or 714 and 340-341; students majoring in history are required to elect both Principles of Education 700 and 663 or 700 and 384-385.

(8) Public Speaking 459, three Quarter-credit hours, required of all students majoring in English unless excused by the instructor. This course is required of all students in the Curriculum for Elementary Teachers, Supervisors, and Principals.

NOTE: Early in the Spring Quarter a speech test will be given by the division of Public Speaking to determine who shall take and who may be excused from this course. (See description of this course, page 126.) Appointments for the speech test should be made in Room 121, Derby Hall.

(9) Music 447, two Quarter-credit hours, and 448, three Quarter-credit hours, and Fine Arts 570, five Quarter-credit hours, are required in the curriculum for Elementary Teachers, Supervisors and Principals.

(10) In curricula in which the total of the foregoing required professional courses does not equal forty-five Quarter-credit hours, additional professional work to make a total of forty-five Quarter-credit hours must be elected from courses offered by the Departments of History of Education, Practical Arts and Vocational Education, Principles and Practice of Education, Psychology, and School Administration.

For students in the Home Economics curriculum, the total professional requirement is forty-two Quarter-credit hours. The professional courses required of the student majoring in Music are all specifically listed in the curriculum outline.

Students who are registered in the Commercial and Journalism Teacher Training curricula, or in the curriculum in Vocational Education, may count within this forty-five hours of professional work, required courses in Practical Arts and Vocational Education.

MAJOR AND MINOR SUBJECTS

Students are advised to elect majors and minors in subjects commonly taught in the schools. In all cases the student's major and minor shall be approved by the Secretary of the College of Education.

DECLARATION OF MAJOR AND MINOR

Not later than the beginning of the Junior year each student must file in the office of the Secretary of the College a statement declaring his major and minor subjects. Whenever possible this statement should be filed *before* the beginning of the Junior year—as soon as the definite choice of major and minors has been made. An early declaration enables the college office and other advisers to extend more satisfactory guidance to students than if the information is not on record until the beginning of the Junior year.

Bulletins containing information that will be helpful to students in selecting the major and minors may be obtained upon request at the Secretary's Office.

There are two types of requirements with reference to the major and minor:

(a) The general curriculum, for students majoring in the academic subjects, requires a major, a first minor, and a second minor.

(b) The special curricula do not require a second minor. (See Section on page 51.)

STANDARD REQUIRED IN THE MAJOR IN ALL CURRICULA

The quality of work in the student's major which will meet the requirements of the College of Education is defined by the following statements:

For all students following the general curriculum or any of the special fixed curricula except the curriculum for Elementary Teachers, Supervisors, and Principals, an average point-hour ratio of 2.25 in the major subject on all courses taken at this University after the Summer Quarter of 1928 will be required for admission to supervised teaching (Principles of Education 440) except that students transferring to the College of Education after the Summer Quarter of 1928 must fulfill the 2.25 point average on *all* courses in the major field taken at this University regardless of the Quarter in which such courses were elected. Students transferring from other institutions and requesting credit for Principles of Education 440 will be required to fulfill the 2.25 point-hour ratio before such credit shall be granted. Application of the rule to transferred students shall terminate at the close of the Quarter preceding the Quarter of graduation.

For students following the curriculum for Elementary Teachers, Supervisors, and Principals, an average point-hour ratio of 2.25 on all courses taken at this University after the end of the sophomore year will be required for admission to supervised teaching (Principles of Education 441). Courses taken prior to the Summer Quarter 1928 shall not be included in the determination of this average, except in case of persons who have transferred to the College of Education since the Sum-

mer Quarter of 1928. Students transferring from other institutions and requesting credit for Principles of Education 441 will be required to fulfill the 2.25 point-hour ratio before such credit shall be granted. Application of the rule to transferred students shall terminate at the close of the Quarter preceding the Quarter of graduation.

MAJOR AND FIRST MINOR

(For Students in the General Curriculum)

In general, a major or a first minor in the College of Education means a major or minor in *one subject*. Forty Quarter-credit hours is sufficient for such a major, or twenty-five hours for such a minor, except in the case of foreign language. If a student is majoring in a foreign language of which he had none in high school, he must secure forty-five hours credit in that language; if minoring, thirty hours. If a student has high school credit for a year or more of the language in which he is majoring or minoring, then forty hours will be sufficient for a major and twenty-five hours for a first minor.

Courses taken in fulfillment of the academic group requirement (pages 45 and 46) may be credited toward the fulfillment of the requirement in the corresponding major or minor.

There are some instances in which closely related subjects may be combined for a major or a first minor. Combinations regularly permitted are given below. In all cases where combinations are made, forty-five hours must be offered as a major, thirty hours as a first minor. At least ten hours must be taken in any subject presented as part of a major.

- (1) History thirty-five hours and Political Science ten hours in accordance with the sequence on page 79.
- (2) History and Social Sciences in accordance with the statement on page 82.
- (3) Botany, Zoology, and Physiology. See suggested sequence in biological sciences, page 74.
- (4) Geology and Geography for Major or Minor.
- (5) Physics and Chemistry.
- (6) Physics and Mathematics.
- (7) English thirty-five hours and Public Speaking ten hours.

Professional subjects may be chosen as first minors but not as majors except in the case of Psychology, which may be used as a major by those preparing for psychological positions in the public schools. All psychology offered as a major must be exclusive of courses in Psychology offered as professional work. A student electing a first minor in any professional subject must obtain twenty-five hours in that subject over and above the courses regularly required therein which are included in the forty-five hours professional work required for a degree.

Combinations of two or more professional subjects, e.g., History of Education and Principles of Education, may not be offered as minors.

SECOND MINOR

(For students in the General Curriculum)

On August 5, 1929, the State Department of Education issued a bulletin announcing a revision of the requirements for the state four-year

provisional high school certificate, effective September 1, 1929. In fulfillment of this certification requirement, all students in the College of Education who graduate after September 1, 1929 and who are pursuing the *General Curriculum* must be prepared in one major and *two minors* instead of one major and one minor as previously required by the College of Education.

This requirement affects *all students* pursuing the *General Curriculum* for teachers of *academic subjects*, in high schools. It does not apply to those pursuing the *Special Curricula* in commercial subjects, science nursing, fine arts, home economics, music, physical education, practical arts and vocational education, or the curriculum for elementary teachers, supervisors, and principals.

In order to meet the present requirement of the State Department of Education with regard to a second minor, the College of Education will accept for purpose of certification any satisfactory combination of credits totaling at least eighteen Quarter-credit hours selected in accordance with the following regulations of the State Department of Education. The eighteen Quarter-credit hours of collegiate credit in the minors listed in the first column below must be additional to the prerequisite high school credit indicated by the second column.

APPROVED MINORS	PREREQUISITE HIGH SCHOOL CREDIT
English, including public speaking, literature	3 units
History, including political science	2 units, including history, civics
Mathematics	2 units
Social science, including economics, geography, political science, sociology	1 unit, including civics, economics, sociology, community civics, occupations
Biological Science, including botany, zoology, anatomy, physiology, agriculture	1 unit, including botany, zoology, physiology, agriculture, general science, biology
Physical science, including chemistry, physics	2 units, including chemistry, physics, general science
Earth science, including geology, geography	1 unit, including geology, physiography, general science
French	2 units
German	2 units
Latin	2 units
Spanish	2 units
Home Economics, including all related subjects	1 unit
Commercial subjects, including all related subjects	2 units
Industrial arts, including all related subjects	1 unit industrial arts (manual training), vocational industrial work
Fine Arts	None
Music	None
Physical Education	None

Professional subjects are not approved as second minors.

Persons who do not have credit for the prerequisite high school units may offer five Quarter-credit hours of collegiate credit in lieu of each unit of the high school prerequisite in that subject. This, of course, is additional to the eighteen Quarter-credit hours of collegiate credit referred to in the paragraph above.

NOTE: The requirement that beginning high school teachers shall have preparation in at least three different teaching fields has been adopted after extended and thorough investigation of the subject combinations of beginning high school teachers in Ohio. This research has shown conclusively that approximately two-thirds of the high school teachers of academic subjects in Ohio in their first year of teaching are assigned to teach in at least three different fields.

MAJOR AND MINOR FOR STUDENTS IN SPECIAL CURRICULA

Students majoring in Fine Arts, Music, Commercial Subjects, Journalism, Home Economics, Education-Science Nursing, Physical Education, or Practical Arts and Vocational Education, or students preparing to teach in Elementary Schools or in Part-time and Continuation Schools and Classes, will follow the fixed curricula outlined on the succeeding pages of this *Bulletin*. Such students are not, in general, subject to all the foregoing regulations with respect to major or minor subjects. The fixed curricula in Music, Home Economics, Education-Science Nursing, and Physical Education automatically provide for the major and minor requirements. The curricula in Practical Arts and Vocational Education provide for the requirement in the major only. A minor must be elected in accordance with the regular requirements of the college.

SUGGESTED SEQUENCES

Students majoring in subjects for which there are no fixed curricula will follow the General Curriculum. Some departments, e.g., Chemistry, English, German, etc., have provided suggested sequences of courses for the guidance of students majoring in them. In some cases, minor sequences have also been outlined. These major and minor sequences will be found on pages 74 to 82.

Elective Courses

The word "elective" is generally used in two senses. (1) It is used to designate those courses which are not taken to meet any specific requirement. Unless a student's high school preparation has been deficient, he usually has opportunity to include a number of such courses in the total of 190 Quarter-credit hours required for the degree and thereby to diversify and enrich his education in the direction of his personal interests. (2) When the word appears in a given Quarter of an outlined curriculum it means simply that out of the fifteen or more hours which the student will normally be carrying in that Quarter, a certain number are to be used in some way not prescribed in advance. One student may use these hours toward meeting his foreign language requirement, another may use them in taking some course which falls within his major or minor field, and still another may take a course which does not meet any specific requirement—i.e., which is elective in the first sense of the word as above defined.

GENERAL CURRICULUM

FIRST YEAR

Biological Science	5	Biological Science	5	Psychology	(401) 5
Social Science	5	Social Science	5	English	(401) 5
Foreign Language		Foreign Language		Foreign Language	
or Elective	5	or Elective	5	or Elective	5
Survey of Education	1	Military Science	1	Military Science	1
Military Science	1	Physical Education	1	Hygiene	(400) 1
Physical Education	1			Physical Education	1

SECOND YEAR

Psychology	(407) 5	English	(430 or 442) 5	Prin. of Education	(401) 4
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1
Elective	10	Elective	10	Elective	11

THIRD YEAR

History of Education	(625) 3	History of Education	(626) 3	*Prin. of Education	(410) 4
Practical Arts and		Elective	12	Teaching Courses	3
Vocational Edu. (Men)	(600) 3			Elective	12
Elective	9 or 11				

** FOURTH YEAR

School Admin.	(600) 3	School Admin.	(601) 3	Prin. of Education	(440) 7
Elective	12	Elective	12	Elective	9

* Principles of Education 410 may be elected in some other Quarter if necessary. It must be taken as a prerequisite to or concurrently with the teaching courses in the major field and as a prerequisite to Principles of Education 440 by students doing supervised teaching in English, social studies, foreign language, mathematics, science, and practical arts and vocational education.

** All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: A social science shall include a course in History, Economics, Geography, Political Science, or Sociology. In case the student desires to satisfy this requirement by electing work in Economics, Sociology, or Political Science he will have to postpone it until the second year.

From the "Elective" hours the student must offer a major consisting of 40 to 45 Quarter-credit hours in one field, a first minor consisting of 25 to 30 Quarter-credit hours in another field, and a second minor as explained on pages 49-51, and must also provide for any general academic or professional requirements (such as Physics or Chemistry, for those who have not had one of these subjects in high school), whose place is not specifically indicated in the outline of the curriculum. Students should choose for their major and minor work those subjects which they expect to teach.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

EDUCATION-SCIENCE NURSING CURRICULUM

Five-Year Curriculum

FIRST YEAR

Chemistry (401 or 411) 5	Chemistry (402 or 412) 5	Psychology (402) 5
English (401) 5	Psychology (401) 5	Home Economics (411) 5
Foreign Language or Elective } 5	Foreign Language or Elective } 5	Foreign Language or Elective } 5
Survey of Education 1	Hygiene (400) 1	Physical Education (423) 1
Physical Education (421) 1	Physical Education (422) 1	

Summer Quarter

Psychology (407) 5
Elective 3

SECOND YEAR

Physiology (407) 5	Physiology (408) 5	Public Health (404) 3
English (430 or 442) 5	Sociology (401) 5	Sociology (402) 5
Elective 5	Elective 5	Public Speaking (401) 5
Physical Education (425) 1	Physical Education (426) 1	Elective 2
		Physical Education (427) 1

THIRD YEAR

Anatomy (410) 3	Bacteriology (603) 3	Pathology (401) 2
Bacteriology (607) 5	Physiological Chem. (405) 4	Nursing (410) 3
Home Economics (426) 1	Nursing (402) 3	Medical Diseases (430) 1
Diet in Disease (401) 5	Nursing (450) 2	Nursing Orthopedics (503) 7
Nursing Practice (501) 3	Ethics and History of Nursing (502) 5	

Summer Quarter

Nursing Practice (504) 7

FOURTH YEAR

Nursing (425) 3	Nursing (428) 2	Nursing (432) 1
Surgical Diseases (435) 3	Gynecology and Genito-Urinary Diseases (455) 1	Diseases of the Eye (433) 1
Obstetrics (413) 3	Survey of Nursing (460) 1	Diseases of the Ear, Nose and Throat (416) 3
Pediatrics (505) 7	Nursing Professional Problems (506) 7	Nursing Communicable Diseases (470) 1
	Elective 3	Nursing (480) 1
	Nursing Practice (506) 7	Nursing Practice (507) 7

Summer Quarter

Nursing Practice (508) 7

*FIFTH YEAR

Nursing (418) 1	School Admin. (600) 3	Prin. of Education (440) 7
Nervous and Mental Diseases (420) 1	History of Education (625) 3	Prin. of Education (770) 3
	Public Health (602) 5	School Admin. (601) 3
Nursing Dermatology (401) 4	Prin. of Education (410) 4	History of Education (626) 3
Prin. of Education (603) 2		
Public Health (509) 7		
Nursing Practice (509) 7		

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Complete descriptions of all courses in this curriculum will be found in the Bulletin of the School of Nursing.

REQUIREMENTS FOR A DEGREE

The number of credit points required for graduation shall amount to not less than 1.8 times the number of credit hours undertaken by the student during her course as shown by her record card.

Upon the satisfactory completion of two hundred and fifty-five Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education and for a diploma in Nursing.

CURRICULUM FOR TEACHERS, SUPERVISORS AND PRINCIPALS IN ELEMENTARY SCHOOLS

FIRST YEAR

Zoology	(401)	5	Zoology	(402)	5	Psychology	(401)	5
or			or			Geography	(401)	5
Botany	(401)		Botany	(402)		Elective		5
History	(403)		History	(404)		Physical Education		1
or			or			Military Science		1
Geography	(401)		Geography	(403)	5	Hygiene	(400)	1
English	(401)	5	English	(430)	5			
Survey of Education		1	Physical Education		1			
Physical Education		1	Military Science		1			
Military Science		1						

SECOND YEAR

Psychology	(407)	5	Sociology	(401)	5	Prin. of Edu.	(401)	4
Geography	(403)	5	History of Edu.	(401)	5	Sociology	(402)	5
Foreign Language			Foreign Language			Foreign Language		
or			or			or		
Elective		5	Elective		5	Elective		5
Physical Edu. (Women)		1	Public Speaking	(459)	3	History	(437)	3
Military Science		1	Physical Edu. (Women)		1	Physical Edu. (Women)		1
			Military Science		1	Military Science		1

NOTE: Not later than the beginning of the third year, students who are pursuing this curriculum and who expect to be teachers or supervisors in the elementary schools must file a statement to that effect in the office of the Secretary of the College of Education.

THIRD YEAR

Fine Arts	(569)	5	Fine Arts	(570)	5	Public Health	(602)	5
Prin. of Edu.	(499)	3	Prin. of Edu.	(406)	3	Music	(448)	3
*Prin. of Edu.	(495)	3	**Prin. of Edu.	(494)	3	Psychology	(609)	3
Music	(447)	2	Prac. Arts and			Physical Edu.	(476)	3
Elective		5 or 8	Voc. Edu.	(541)	3	Elective		2
			Elective		1 or 4			

†† FOURTH YEAR

Prin. of Edu.	(492)	3	School Admin.	(601)	3	Prin. of Edu.	(430)	5
**Prin. of Edu.	(496)	3	Prin. of Edu.	(493)	3	†Prin. of Edu.	(441)	10
School Admin.	(600)	3	Elective		10			
Elective		6 or 8						

Electives: The major and minor have been discontinued in the elementary curriculum. However, the student who is following the elementary curriculum must elect at least twenty additional hours in some one selected field, such as English, History, Geography, Science. This work must be chosen from courses in the "600" group.

* Offered in the curriculum at this point but not required.

** Student is required to take 494 or 496 but not both.

† An average point-hour ratio of 2.25 on all courses taken at this University after the end of the Sophomore year shall be required for admission to supervised teaching

(Principles of Education 441). Courses taken prior to the Summer Quarter 1928 shall not be included in the determination of this average, except in case of persons who have transferred to the College of Education since the Summer Quarter 1928. Students transferring from other institutions and requesting credit for Principles of Education 441 will be required to fulfill the 2.25 point-hour ratio before such credit shall be granted. Application of the rule to transferred students shall terminate at the close of the Quarter preceding the Quarter of graduation.

†† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Principles of Education 401, 406, 430, 441, 492, 493, 499 must be taken by all students. Students must take either 494 or 496. It is suggested that students preparing to teach in the primary grades include Principles of Education 495 in their elective course offerings. Principles of Education 304, 305, 306, and 319 offered only in the Summer Quarter, will be allowed as subject credit for 492, 493, 494, and 496 respectively.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

FINE ARTS

FIRST YEAR

Zoology or Geology	(401) 5	Zoology or Geology	(402) 5	Psychology	(401) 5
History	(401) 5	History	(402) 5	English	(401) 5
Fine Arts	(421) 5	Fine Arts	(423) 5	Fine Arts	(431) 5
Survey of Education	1	Military Science	1	Military Science	1
Military Science	1	Physical Education	1	Hygiene	(400) 1
Physical Education	1			Physical Education	1

SECOND YEAR

Psychology	(407) 5	English	(430 or 442) 5	Fine Arts	(461 or 424) 5
Fine Arts	(451) 5	Fine Arts	(452) 5	Fine Arts	(453) 5
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1
Elective	5	Elective	5	Elective	5

THIRD YEAR

History of Education	(625) 3	History of Education	(626) 3	Fine Arts	(441 or 442) 5
Fine Arts	(424 or 461) 5	Fine Arts	(425 or 432) 5	Prin. of Education	(401) 4
Prin. of Education	(750) 3	Prin. of Education	(751) 3	Elective	5
Elective	5	Elective	5		

* FOURTH YEAR

School Admin.	(600) 3	Fine Arts	(571) 5	Prin. of Education	(440) 7
Fine Arts	(560 or 544) 5	Elective	10	Elective	10
Elective	8				

NOTE: The student must offer a minor consisting of 25 to 30 Quarter-credit hours. This minor may be taken in the History of Fine Arts.

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: The sequence of courses in Fine Arts listed by the foregoing curriculum is a suggested sequence only, and changes may be made in the interest of individual students. Written authorization for such substitutions must be obtained from the Chairman of the Department and filed with the Secretary of the College.

NOTE: Students majoring in Fine Arts whose programs do not conform to the foregoing curriculum must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

HOME ECONOMICS

FIRST YEAR

Fine Arts	(426) 5	Home Economics	(402) 5	Psychology	(401) 5
Chemiatry	(401 or 411) 5	Chemistry	(402 or 412) 5	Home Economics	(406) 5
Home Economics	(401) 5	English	(401) 5	English	5
Survey of Education	1	Physical Education	(422) 1	Physical Education	(423) 1
Physical Education	(421) 1			Hygiene	(400) 1

SECOND YEAR

Physiology	(407) 5	Physiology	(408 or 409) 5	Agr. Chemistry	(403) 5
Psychology	(407) 5	Agr. Chemistry	(402) 5	Prin. of Education	(401) 4
Home Economics	(411) 5	Home Economics	(412) 5	Fine Arts	(436) 3
Physical Education	(425) 1	Physical Education	(426) 1	Public Health	(407) 2
				Physical Education	(427) 1

THIRD YEAR

Bacteriology	(607) 5	Home Economics	(503) 5	Economics	(407) 5
History of Education	(625) 3	Engr. Drawing	(437) 2	Home Economics	(611) 5
†Foreign Language or		History of Education	(626) 3	†Foreign Language or	
Elective	5	†Foreign Language or		Elective	5
Elective	2	Elective	5		

** FOURTH YEAR

Engr. Drawing	(438) 3	School Admin.	(601) 3	*Prin. of Education	(440) 7
School Admin.	(600) 3	Sociology	(401) 5	Home Economics	(643) 3
Home Economics	(512) 5	Home Economics	(641) 5	Elective	7
Home Economics	(511) 3	Elective	2		

†Students who have credit for two units of some *one* foreign language taken in high school are not required to take any foreign language in college. Students who enter with less than this amount must take a minimum of three Quarters of one foreign language in college.

* Students registering for this course should plan their schedules so as to meet in conference at the same hour as Home Economics 642. For this purpose consult Home Economics Time Schedule.

**All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

MUSIC

The following courses constitute a major curriculum in school music. Students electing this curriculum will not be required to offer a minor.

FIRST YEAR

History	(401) 5	History	(402) 5	Psychology	(401) 5
Biological Science	5	Biological Science	5	English	(401) 5
Music	(476) 3	Music	(478) }	Music	(479) }
or		or	3	or	3
Music	* (480) 4	Music	(482) }	Music	(483) }
Music	(501) }	Music	(502) }	Music	(503) }
or	2	or	2	or	2
Music	(504) }	Music	(505) }	Music	(506) }
Music	(A) or (B) 1	Music	(A) or (B) 1	Music	(A) or (B) 1
Survey of Education	1	Hygiene	(400) 1	Military Science	1
Military Science	1	Military Science	1	Physical Education	1
Physical Education	1	Physical Education	1		

* Students admitted to Music 480 will be excused from 478 and 479 and should follow 480 with 482 and 483.

SECOND YEAR

Psychology	(407) 5	English	(430) 5	Prin. of Education	(401) 4
Music	(442) 3	Music	(430) 4	Music	(431) 4
Music	(460) 3	Music	(459) 1	Music	(443) 3
Music	(482) }	Music	(461) 3	Music	(462) 3
or	3	Music	(483) }	Music	1
Elective		or	3	Applied	
Music	1	Elective		Music	(A) or (B) 1
Applied		Music	1	Military Science	1
Music	(A) or (B) 1	Applied		Physical Edu. (Women)	1
Military Science	1	Music	(A) or (B) 1		
Physical Edu. (Women)	1	Military Science	1		
		Physical Edu. (Women)	1		

THIRD YEAR

Modern Language		Music	(449) 2	Music	1
or		Music	(450) 2	Applied	
Elective	5	Modern Language		Prin. of Education	(410-4) 2
Music	(463) 3	or	5	Modern Language	
**Music	(485) 1	Elective		or	5
Music	(610) 3	Music	(465) 3	***Elective	
Music	1	**Music	(486) 1	Music	(468) 3
Applied		Music	1	Music	(611) 3
Music	(A) or (B) 1	Applied		Music	(A) or (B) 1
History of Education	(626) 3	Music	(A) or (B) 1	Elective	3
		Elective	2		

† FOURTH YEAR

Prin. of Education	(410-4) 2	Music	(603) 4	Prin. of Education	(440-7) 4
Prin. of Education	(440-7) 3	Music	(632) 3	Music	1
Music	(601) 4	Music	1	Applied	
Music	(630) 3	Applied		Music	(A) or (B) 1
Music	1	Music	(642) 2	School Admin.	(600) 3
Applied		Music	(A) or (B) 1	***Elective	8
Music	(A) or (B) 1	***Elective	5		
Elective	2				

** Students whose chief interest is instrumental music will be excused from 485 and 486 and should elect 614 and additional courses in applied music.

*** Electives to be selected from courses other than those in the Department of Music.

† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Observation and Participation. To meet the requirement in observation and participation, students should register for Principles of Education 410, 4 hours, in the Spring Quarter of the third year; the work of the course will continue during this Quarter and the Autumn Quarter of the fourth year.

Supervised Teaching. To meet the requirement in supervised teaching, students should register for Principles of Education 440, 7 hours, in the Autumn Quarter of the fourth year; the work of the course will continue during this Quarter and the Spring Quarter of the fourth year.

NOTE: Students pursuing the curriculum in Music must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

CURRICULUM FOR SUPERVISORS OF INSTRUMENTAL MUSIC

FIRST YEAR

History	(401) 5	History	(402) 5	Psychology	(401) 5
Biological Science	5	Biological Science	5	English	(401) 5
Music	(476) 3	Music	(478) }	Music	(479) }
or		or	3	or	3
Music*	(480) 4	Music	(482) }	Music	(483) }
Music	(501) 1 or 2	Music	(502) 1 or 2	Music	(503) 1 or 2
Music	(A) or (B) 1	Music	(A) or (B) 1	Music	(A) or (B) 1
Survey of Education	1	Hygiene	(400) 1	Physical Education	1
Physical Education	1	Physical Education	1	Military Science	1
Military Science**	1	Military Science	1		

* Students admitted to Music 480 will be excused from 478 and 479 and should follow 480 with 482 and 483.

SECOND YEAR

Psychology	(407) 5	English	(430) 5	Prin. of Education	(401) 4
Music	(460) 3	Music	(430) 4	Music	(431) 4
Music	(482) }	Music	(459) 1	Music	(462) 3
or	3	Music	(461) 3	Music	(483) 3
Elective		Music	(531) 1	or	
Music	(530) 1	Music	(505) 1	Elective	1
Music	(504) 1	Music	(B) 1	Music	(532) 1
Music	(B) 1	Physical Edu. (Women)	1	Music	(506) 1
Physical Edu. (Women)	1	Military Science	1	Music	(B) 1
Military Science**	1			Physical Edu. (Women)	1
				Military Science	1

** Students may be assigned to the band to meet the requirements in Military Science.

THIRD YEAR

History of Education	(626) 3	Music	(465) 3	Prin. of Education	(410-4) 2
School Admin.	(600) 3	Music	(642) 2	Music	(468) 3
Music	(463) 3	Music	(534) 1	Music	(611) 3
Music	(610) 3	Music	(508) 1	Music	(643) 3
Music	(533) 1	Music	(B) 1	Music	(535) 1
Music	(507) 1	Music	(C) or (D) 1	Music	(509) 1
Music	(B) 1	Elective	6	Music	(B) 1
Music	(C) or (D) 1			Music	(C) or (D) 1
				Elective	1

* FOURTH YEAR

Prin. of Education (410-4) 2	Modern Language	Prin. of Education (440-7) 3	Modern Language	Prin. of Education (440-7) 4
Prin. of Education (440-7) 3	or	5	Modern Language	5
Modern Language	Elective		or	
or	5	Music (603) 4	Elective	
Elective	5	Music (632) 3	Music (635) 3	
Music (601) 4	Music (537) 1	Music (511) 1	Music (538) 1	
Music (630) 3	Music (511) 1	Music (512) 1		
Music (536) 1	Music (B) 1	Music (B) 1		
Music (510) 1	Music (C) or (D) 1	Music (C) or (D) 1		
Music (B) 1				
Music (C) or (D) 1				

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Students pursuing the curriculum for Supervisors of Instrumental Music must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

PHYSICAL EDUCATION—MEN

NOTE: The purpose of this curriculum is the preparation of teachers of physical education, athletic coaches, recreation directors, city and state supervisors, Y.M.C.A. and Y.W.C.A. physical directors, and persons for various other types of positions that are open to men and women trained in this field. All students taking Physical Education as a major or minor must have their schedules approved each Quarter by their adviser in the Department of Physical Education.

FIRST YEAR

Zoology (401) 5	English (401) 5	English (430 or 442) 5
Chemistry (401 or 411) 5	Chemistry (402 or 412) 5	Psychology (401) 5
*Foreign Language	*Foreign Language	*Foreign Language
or Elective 5	or Elective 5	or Elective 5
Survey of Education 1	Physical Education (402) 1	Physical Education (403) 1
Physical Education (401) 1	Military Science 1	Military Science 1
Military Science 1		

*Students who have credit for two units of some one foreign language taken in high school are not required to take any foreign language in college. Students who enter with less than this amount must take a minimum of three Quarters of one foreign language in college.

SECOND YEAR

Psychology (407) 5	Anatomy (414) 5	Anatomy (412) 5
Physiology (407) 5	Physiology (408 or 409) 5	Prin. of Education (401) 4
Physical Education (441) 2	Physical Education (442) 2	Physical Education (443) 2
Physical Education (410) 3	Military Science 1	Military Science 1
Hygiene	Elective 2	Elective 2
Military Science 1		

THIRD YEAR

History of Education (625) 3	History of Education (626) 3	Public Speaking (401) 5
Sociology (401) 5	Sociology (402) 5	Physical Education (447) 3
Physical Education (691) 3	Physical Education (683) 5	Physical Education (493) 3
Physical Education (445) 3	Physical Education (448) 3	Physical Education (692) 3
Elective 2		

* FOURTH YEAR

Physical Education	(685) 3	Physical Education	(450) 3	Physical Education	(451) 3
Physical Education	(449) 3	Physical Education	(682) 5	Prin. of Education	(440) 7
Physical Education	(643) 3	Elective	3	Elective	6
School Adm.	(600) 3				
Elective	3				

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: In consideration of the content of certain courses in Physical Education, professional credit of nine hours is allowed toward the total professional requirement. In addition, the student must take professional electives to make a total of 45 hours in the professional group.

NOTE: Students who desire to major in Physical Education should consult with the Chairman of the Department of Physical Education, Men's Gymnasium, before registering.

NOTE: Students pursuing the curriculum in Physical Education must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

PHYSICAL EDUCATION—WOMEN

FIRST YEAR

Zoology	(401) 5	English	(401) 5	English	(430 or 442) 5
Chemistry	(401 or 411) 5	Chemistry	(402 or 412) 5	Psychology	(401) 5
*Foreign Language		*Foreign Language		*Foreign Language	5
or Elective	5	or Elective	5	or	
Survey of Education	1	Physical Education	(422) 1	Elective	2
Physical Education	(421) 1			**Physical Education	(410) 3
				Hygiene	
				Physical Education	(423) 1

*Students who have credit for two units of some one foreign language taken in high school are not required to take any foreign language in college. Students who enter with less than this amount must take a minimum of three Quarters of one foreign language in college.

** Students who must take foreign language in the Spring Quarter of the Freshman year in order to fulfill their language requirement may defer Physical Education 410 until the Spring Quarter of the Sophomore year.

SECOND YEAR

Psychology	(407) 5	Anatomy	(414) 5	Anatomy	(412) 5
Physiology	(407) 5	Physiology	(408 or 409) 5	Prin. of Education	(401) 4
Physical Education	(541) 3	Physical Education	(542) 3	Physical Education	(543) 3
Physical Education	(425) 1	Physical Education	(426) 1	Physical Education	(427) 1
Elective	3	Elective	2		

THIRD YEAR

History of Education	(625) 3	History of Education	(626) 3	Public Speaking	(401) 5
Sociology	(401) 5	Sociology	(402) 5	Physical Education	(493) 3
Physical Education	(691) 3	Physical Education	(683) 5	Physical Education	(547) 3
Physical Education	(545) 3	Physical Education	(546) 3	Physical Education	(692) 3
Elective	2				

* FOURTH YEAR

Physical Education	(671) 3	Physical Education	(550) 3	Physical Education	(551) 2
Physical Education	(549) 3	Physical Education	(682) 5	Prin. of Education	(440) 7
Physical Education	(643) 3	Elective	3	Elective	7
School Admin.	(600) 3				
Elective	3				

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: In consideration of the content of certain courses in Physical Education, professional credit of nine hours is allowed toward the total professional requirement. In addition, the student must take professional electives to make a total of 45 hours in the professional group.

NOTE: Students who desire to major in Physical Education should consult with the Chairman of the Department of Physical Education, Women's Division, Pomerene Hall, before registering.

NOTE: Students pursuing the curriculum in Physical Education must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by her signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

PRACTICAL ARTS AND VOCATIONAL EDUCATION

The offerings of this department are designed as major contributions to the preparation of teachers, supervisors, and administrators of practical arts and vocational education in their various appropriate phases in elementary, junior, and senior high school levels.

In the modern elementary school, practical arts activities are coming to be recognized as the integrating and motivating core of the entire curriculum. Here actual or life-like situations and enterprises provide undifferentiated, typically practical arts content (industrial, commercial, household, agricultural, physical, etc.) and invite natural child interest and participation leading to a real "command of fundamentals" and "integration into social life" which together constitute the chief business of the elementary school. It follows that practical arts courses both in subject matter and method are basic in all elementary teacher preparation.

In junior and senior high school levels, Practical Arts and Vocational Education have become highly differentiated for purposes of general development, guidance, and preparation for social-economic living. No progressive school system is now content with "manual training" in a few simple exercises in woodwork and drawing; with shorthand and typing in commercial lines; or with any single offering of vocational character. Modern schools generally which aspire to comprehensive educational opportunities for their communities are multiplying their offerings to include a wide variety of practical arts and vocational subjects, continuous from elementary to adult education; and integrated by a thorough service of guidance to which all teachers and courses contribute.

Despite great variation in content, and the legal distinction drawn by the National Vocational Education Act between practical arts and vocational education, however, all lines and levels of the comprehensive practical phases of education are based upon the same sound philosophy of social-economic orientation to our dominantly commercial-industrial democracy. Moreover, within all of this diversity there is much of knowledge and skills in common. Finally, for all phases and at all levels these practical phases of education serve as a medium for fixing desirable personal-social behaviour through active participation in actual or life-like situations. Consequently, adequate teacher preparation requires curricula containing courses common to fundamental principles and practices in commerce and industry, but differentiated beyond these to give professional preparation for specific phases of these broad fields of education. Hence, this department is obligated to offer (in cooperation with other colleges and departments) differentiated curricula and courses in commercial, industrial arts, and vocational teacher preparation, including continuation education, and guidance.

I. COMMERCIAL AND JOURNALISM TEACHER PREPARATION CURRICULA

Students who expect to enter the field of journalism or to engage in personnel or educational work in industry or in business should register in the College of Commerce and Administration.

The following curricula are designed for the preparation, respectively, of teachers of accounting, commercial geography, office practice, retail selling, and journalism. With the exception of journalism, the first two years are the same for all curricula.

FIRST YEAR

English	(401) 5	Geography	(401) 5	Geography	(403) 5
Biological Science	5	Biological Science	5	History (American or	
Elective	3	Elective	4	European)	5
Survey of Education	1	Physical Education	1	Elective	3
Physical Education	1	Military Science	1	Hygiene	(400) 1
Military Science	1			Physical Education	1
				Military Science	1

SECOND YEAR

History (American or		Economics	(402) 5	*English (Literature)	5
European)	5	Accounting	(401) 5	Accounting	(402) 5
Economics	(401) 5	Foreign Language or		**Prac. Arts and Voc.	
Foreign Language or		Elective	5	Edu.	(470) 3
Elective	5	Physical Edu. (Women)	1	Elective	
Physical Edu. (Women)	1	Military Science	1	Physical Edu. (Women)	1
Military Science	1			Military Science	1

* Must be taken from one of the following English courses: 430, 442.

** Practical Arts and Vocational Education 470 is required of all students majoring or minoring in this department in their Sophomore year. It may be elected in any Quarter.

A. MAJOR IN ACCOUNTING*

THIRD YEAR

Accounting	(601) 5	Accounting	(602) 5	Bus. Organization	(627) 3
Bus. Organization	(621) 3	Bus. Organization	(625) 3	Psychology	(407) 5
Psychology	(401) 5	**Prac. Arts and Voc.		Prac. Arts and Voc.	
Prin. of Education	(401) 4	Edu.	(600) 3	Edu.	(660) 3
		Elective	5	†Elective	5

* Students expecting to enter the field of accounting should enroll in the College of Commerce and Administration.

** Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

† At least three hours must be in advanced courses in Accounting, Business Organization, Economics, or Geography.

†† FOURTH YEAR

Accounting	(603) 4	Accounting	(604) 4	School Admin.	(601) 3
Prac. Arts and Voc.		Economics	(520) 5	Accounting	(616) 3
Edu.	(663) 3	Prin. of Education	(410) 4	Prin. of Education	(440) 7
History of Edu.	(625) 3	History of Edu.	(626) 3	Elective	3
School Admin.	(600) 3				
Elective	3				

†† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: The student is expected to offer a minor of 25 to 30 hours subject to the approval of the Chairman of the Department of Practical Arts and Vocational Education and the Secretary of the College.

B. MAJOR IN COMMERCIAL GEOGRAPHY*

THIRD YEAR

Geography	(632) 3	**Prac. Arts and Voc.		Geography	(631) 3
Prin. of Education	(401) 4	Edu.	(600) 3	Psychology	(407) 5
Psychology	(401) 5	Elective	13	Prac. Arts and Voc.	
Geography	(422) 3			Edu.	(660) 3
				Elective	5

* Students expecting to engage in geographical work in industry, in business, or in government should enroll in the College of Commerce and Administration.

** Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

*** FOURTH YEAR

Geography	(604) 2	Geography	(634) 3	Geography	(603) 4
Geography	(641) 2	School Admin.	(601) 3	Geography	(606) 2
School Admin.	(600) 3	History of Edu.	(626) 3	Prin. of Education	(440) 7
History of Edu.	(625) 3	Prin. of Education	(410) 4	Elective	3
Prac. Arts and Voc.		Elective	3		
Edu.	(663) 3				
Elective	3				

*** All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: The student is expected to offer a minor of 25 to 30 hours subject to the approval of the Chairman of the Department of Practical Arts and Vocational Education and the Secretary of the College.

C. MAJOR IN OFFICE PRACTICE*

THIRD YEAR

History of Edu.	(625) 3	History of Edu.	(626) 3	Prac. Arts and Voc.	
Prin. of Education	(401) 4	Bus. Organization	(640) 3	Edu.	(660) 3
Bus. Organization	(621) 3	English	(405) 5	Bus. Organization	(700) 5
Psychology	(401) 5	**Prac. Arts and Voc.		Psychology	(407) 5
		Edu.	(600) 3	Elective	3
		Elective	3		

† FOURTH YEAR

Prac. Arts and Voc.		School Admin.	(600) 3	School Admin.	(601) 3
Edu.	(663) 3	Bus. Organization	(691) 4	Bus. Organization	(625) 3
Bus. Organization	(604) 3	Bus. Organization	(605) 3	Prin. of Education	(440) 7
Elective	10	Prin. of Education	(410) 4	Elective	3
		Elective	2		

*Students who expect to engage in personnel or educational work in industry, or in business should register in the College of Commerce and Administration.

**Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: The student is expected to offer a minor of 25 to 30 hours subject to the approval of the Chairman of the Department of Practical Arts and Vocational Education and the Secretary of the College.

D. MAJOR IN RETAIL SELLING

THIRD YEAR

Bus. Organization	(621) 3	Bus. Organization	(712) 4	Bus. Organization	(716) 3
Bus. Organization	(700) 5	Bus. Organization	(623) 3	Prac. Arts and Voc.	
Psychology	(401) 5	*Prac. Arts and Voc.		Edu.	(660) 3
Prin. of Education	(401) 4	Edu.	(600) 3	Psychology	(407) 5
		Elective	6	†Elective	5

* Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

† At least three hours must be in Accounting, Geography, or Business Organization, and in the "600" group.

* FOURTH YEAR

History of Edu.	(625) 3	History of Edu.	(626) 3	School Admin.	(601) 3
Prac. Arts and Voc.		Bus. Organization	(702) 4	Bus. Organization	(705) 4
Edu.	(640) 3	School Admin.	(600) 3	Prin. of Education	(440) 7
Elective	10	Prin. of Education	(410) 4	Elective	2
		Elective	2		

* All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: The student is expected to offer a minor of 25 to 30 hours subject to the approval of the Chairman of the Department of Practical Arts and Vocational Education and the Secretary of the College.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

E. CURRICULUM FOR TEACHERS OF JOURNALISM***FIRST YEAR**

English	(401) 5	English	(430) 5	English	5
Language or Elective	5	Language or Elective	5	Language or Elective	5
History (American)	5	History (American)	5	Hygiene	(400) 1
Survey of Education	1	Physical Education	1	Physical Education	1
Physical Education	1	Military Science	1	Military Science	1
Military Science	1			**Elective	3

SECOND YEAR

Journalism	(401) 5	Journalism	(402) 5	Journalism	(501) 3
History	(401) 5	†Prac. Arts and Voc.		Physical Edu. (Women)	1
English (Literature)	5	Edu.	(470) 3	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	**Elective	11
Military Science	1	Military Science	1		
		Elective	6		

THIRD YEAR

Journalism	(518) 5	Journalism	(502) 3	Psychology	(407) 5
Psychology	(401) 5	††Prac. Arts and Voc.		Prac. Arts and Voc.	
Journalism	(518) 3	Edu.	(600) 3	Edu.	(660) 3
Elective	3	Prin. of Education	(401) 4	Elective	8
		Elective	6		

††† FOURTH YEAR

History of Education	(625) 3	Prin. of Education	(410) 4	School Admin.	(601) 3
School Admin.	(600) 3	History of Education	(626) 3	Journalism	(621) 3
Prac. Arts and Voc.		Journalism	(622) 3	Prin. of Education	(440) 7
Edu.	(663) 3	Journalism	(517) 5	Elective	2
Elective	7				

NOTE: The student is expected to offer a minor of 25 to 30 hours subject to the approval of the Chairman of the Department of Practical Arts and Vocational Education and the Secretary of the College.

* Students expecting to enter the field of journalism should enroll in the School of Journalism.

** At some time during his course the student must take ten hours each of Economics, Political Science, and Sociology.

† Practical Arts and Vocational Education 470 is required of all students majoring or minoring in this department in their Sophomore year. It may be elected in any Quarter.

†† Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

††† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

II. INDUSTRIAL ARTS AND VOCATIONAL (INDUSTRIAL) TEACHER PREPARATION CURRICULA

Although Vocational Industrial Education legally defined is sharply differentiated from Industrial Arts as commonly conducted in the public schools, yet fundamental principles and practice within the two fields

contain so much in common as to justify in general a common curriculum for teacher preparation. Hence this department (in cooperation with other departments and colleges upon the campus) is able to offer a flexible curriculum for Industrial Arts and Vocational (Industrial) Education, including:

I. Constants in

- A. The general College Curriculum (p. 52)
 1. Academic (pp. 45-46)
 2. Professional (pp. 46-47)
 3. Majors and Minors (pp. 48-51)
- B. State requirements for certification*
- C. Basic principles and practice in Industrial Arts Education (pp. 218-219)

II. Variables, consisting of content

- A. Fields of concentration within the department
 1. Practical Arts in Elementary Education
 2. Wood and cabinet work
 3. Metal work
 4. Drawing
 5. Electricity
 6. Ceramics
 7. Printing
- B. Electives, to constitute for each student a minor and to give desirable breadth of preparation beyond the selected field within the department.

* Students majoring in the Vocational curriculum who desire to teach in federally-aided schools or classes should confer with the Vocational Division, State Department of Education to satisfy themselves that they meet various special requirements, among which is "mastery of the occupation to be taught as evidenced by four-year apprenticeship or its equivalent plus three years of approved journeyman experience."

The curriculum which follows is designed to meet the requirements noted above; hence it lists only courses which are constants. After completing Practical Arts and Vocational Education 400, Laboratory of Industries, each student majoring in this department will select one among the various fields of concentration listed above for intensive preparation, supplemented by electives from other fields. Among the variables—fields within the department and electives—students must secure departmental approval of their schedules each Quarter.

A. INDUSTRIAL ARTS AND VOCATIONAL (INDUSTRIAL) EDUCATION

FIRST YEAR

Prac. Arts and Voc.		*Engr. Drawing	(486) 5	Botany or Zoology	(402) 5
Edu.	(400) 5	Botany or Zoology	(401) 5	Psychology	(407) 5
*Engr. Drawing	(401) 4	Psychology	(401) 5	**English	(480) 5
**English	(401) 5	Physical Education	1	Physical Education	1
Survey of Education	1	Military Science	1	Military Science	1
Hygiene	(400) 1				
Physical Education	1				
Military Science	1				

SECOND YEAR

***Physics (401)	5	Physics (402)	5	Prin. of Education (401)	4
or		or		†Prac. Arts and Voc.	
Elective		Elective		Edu.	(450) 3
History (American)		History (American)		Language	
or	5	or	5	or	
Economics		Economics		Elective	
Language		Language		††Prac. Arts and Voc.	
or	5	or	5	Edu.	(470) 3
Elective		Elective		Military Science	1
Military Science	1	Military Science	1		

* In field 1, students may substitute for the Engineering Drawing courses prescribed here Fine Arts courses approved by the Department of Practical Arts and Vocational Education.

** Majors in this curriculum may submit English 410-411-412 instead of English 401 and 430 if they so elect.

*** Physics, not chemistry, is required of students who present no high school credits in either physics or chemistry.

† Courses 450 and 452 will be alternated annually.

†† Practical Arts and Vocational Education 470 is required of all students majoring or minoring in this department in their Sophomore year. It may be elected in any Quarter.

THIRD YEAR

*Prac. Arts and Voc. Edu.	(600) 3	School Admin. Elective	(601) 3	Prac. Arts and Voc. Edu.	(430) 3
School Admin.	(600) 3		13	History of Edu.	(625) 3
Elective	10			**Prac. Arts and Voc. Edu.	(452) 3
				Elective	10

†† FOURTH YEAR

†Prac. Arts and Voc. Edu.	(480) 3	Prin. of Education Elective	(410) 4	Prin. of Education	(440) 7
Elective	13		12	Elective	10

NOTE: In addition to major courses indicated, students in Industrial Arts and Vocational Education must supplement their major courses by non-professional electives to make a total of 50 Quarter-credit hours in this group. They must also offer a minor of from 25 to 30 Quarter-credit hours.

* Practical Arts and Vocational Education 600 is required of all men students in the College of Education and of all students majoring or minoring in this department in their Junior year. It may be elected in any Quarter.

** Courses 450 and 452 will be alternated annually.

† In field 1, Practical Arts in the Elementary School, women students will substitute Practical Arts and Vocational Education 623 for Practical Arts and Vocational Education 480 in the curriculum.

†† All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Students majoring in Practical Arts and Vocational Education must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

B. VOCATIONAL CONTINUATION EDUCATION
(Teachers of Academic Subjects in Continuation Schools)

FIRST YEAR

English	(401) 5	History	(403) 5	History	(404) 5
Engr. Drawing	} 4 or 5	Engr. Drawing	} 4 or 5	English	(430) 5
or		or		Psychology	(407) 5
Fine Arts		Fine Arts		Physical Education	1
Elective	3	Psychology	(401) 5	Military Science	1
Survey of Education	1	Hygiene	(400) 1		
Physical Education	1	Physical Education	1		
Military Science	1	Military Science	1		

SECOND YEAR

Economics	(401) 5	Economics	(402) 5	*Prac. Arts and Voc.	
Physics	(401 or 403) }	Physics	(402 or 404) }	Edu.	(470) 3
or	5	or	5	Political Science	(401) 5
Chemistry	(401 or 411) }	Chemistry	(402 or 412) }	English	(405) 5
Geography	(401) 5	Geography	(403) 5	Elective	2
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1
Military Science	1	Military Science	1	Military Science	1

THIRD YEAR

Physiology *	(407) 5	Physiology	(408 or 409) 5	Prin. of Education	(401) 4
Economics	(637) 3	Political Science	(403) 5	School Admin.	(600) 3
History of Edu.	(625) 3	Elective	6	Elective	8
Prac. Arts and Voc.					
Edu.	(609) 2				
Elective	3				

**** FOURTH YEAR**

Sociology	(401) 5	Sociology	(402) 5	School Admin.	(601) 3
Economics	3	Economics	3	Economics	3
Prac. Arts and Voc.		Prin. of Education	(410) 4	Prin. of Education	(440) 7
Edu.	(640) 3	Elective	4	Elective	3
Prac. Arts and Voc.					
Edu.	(607) 3				
Elective	3				

NOTE: The purpose of the above curriculum is to prepare candidates to teach academic subjects in part-time (continuation) schools and classes. Before electing this curriculum students should consult the Vocational Division, State Department of Education, to assure themselves of legal qualifications for this work.

* Practical Arts and Vocational Education 470 is required of all students majoring or minoring in this department in their Sophomore year. It may be elected in any Quarter.

** All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: Students pursuing the curriculum in Vocational Continuation Education must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Science in Education.

CURRICULA LEADING TO THE DEGREE OF BACHELOR OF FINE ARTS

The work in these curricula is offered under the supervision of the Department of Fine Arts. For this reason the degree is conferred by the College of Education in which the department is administered. The general statements regarding required subjects in the teacher-training curricula (pp. 45-51) do not apply to these curricula.

PAINTING, SCULPTURE, OR DESIGN

This basic curriculum, which will be varied according to the subject of concentration, is planned for the training of professional painters, sculptors or designers.

FIRST YEAR

Fine Arts	(421) 5	Fine Arts	(423) 5	Fine Arts	(431) 5
Geology	(401) 5	Geology	(402) 5	English	(401) 5
History	(401) 5	History	(402) 5	Psychology	(401) 5
Fine Arts	(476) 1	Fine Arts	(477) 1	Fine Arts	(478) 1
Military Science	1	Military Science	1	Military Science	1
Physical Education	1	Physical Education	1	Physical Education	1
Hygiene	(400) 1				

SECOND YEAR

English	(430) 5	English	(442) 5	Fine Arts	(442) 5
Fine Arts	(424) 5	Fine Arts	(432) 5	Fine Arts	(461) 5
*French	(401) 5	*French	(402) 5	*French	(403) 5
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1
Military Science	1	Military Science	1	Military Science	1

THIRD YEAR

Fine Arts	(451) 5	Fine Arts	(452) 5	Fine Arts	(453) 5
Fine Arts	(425) 5	Fine Arts	(562) 5	Fine Arts	(544) 5
Fine Arts	(441) 5	or	5	or	5
or	5	Fine Arts	(534) 5	Fine Arts	(545) 5
Fine Arts	(560) 5	Elective	5	Elective	5

FOURTH YEAR

Fine Arts	(565) 5	Fine Arts	(566) 5	Fine Arts	(567) 5
Fine Arts	(657) 5	Fine Arts	(658) 5	Fine Arts	(659) 5
Elective	5	Elective	5	Elective	5

* Students who have no credit for foreign language taken in high school will be required to take three Quarters of French in the university, and students who have credit for one or two units of some one foreign language in high school may meet the requirement by taking two units or one unit respectively of the same foreign language in the university.

NOTE: Two Quarters of Botany or of Zoology may be substituted for the two Quarters of Geology in the Freshman Year.

NOTE: Students pursuing the curriculum in Painting, Sculpture, or Design must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Fine Arts.

CERAMIC ART

The curriculum in Ceramic Art is planned to train artists with a working knowledge of ceramic technology. The essential practical processes used in manufacturing pottery and porcelain products are included and the arrangement of laboratory courses permits sufficient concentration to meet the demand for highly specialized artists in the various ceramic fields.

FIRST YEAR

Engineering Drawing (401)	4	Engineering Drawing (402)	4	Fine Arts	(421)	5
English (401)	5	Ceramic Engineering (401)	4	Mathematics	(481)	5
Chemistry (401 or 411)	5	Chemistry (402 or 412)	5	Chemistry (403 or 413)	5	
Military Science	1	Military Science	1	Military Science		1
Physical Education	1	Physical Education	1	Hygiene (400)	1	
				Physical Education		1

SECOND YEAR

Fine Arts (451)	5	Fine Arts (452)	5	Fine Arts (453)	5
Fine Arts (431)	5	Fine Arts (432)	5	Fine Arts (534)	5
Fine Arts (428)	5	Mathematics (432)	5	Fine Arts (461)	5
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1

Summer Quarter: Industrial Experience

THIRD YEAR

Fine Arts (441)	5	Fine Arts (424)	5	Ceramic Engineering (605)	5
Ceramic Engineering (615)	5	Fine Arts (562)	5	Fine Arts (567)	3-5
Fine Arts (565)	3-5	Fine Arts (566)	3-5	Fine Arts (582)	5
Fine Arts (580)	5	Fine Arts (581)	5	Fine Arts (583)	5

Summer Quarter: Industrial Experience

FOURTH YEAR

Fine Arts (657)	5	Fine Arts (658)	5	Fine Arts (659)	5
Fine Arts (661)	3-5	Fine Arts (662)	3-5	Fine Arts (663)	3-5
Fine Arts (584)	5	Fine Arts (585)	5	Fine Arts (586)	5
Elective	5	Elective	5	Elective	5

NOTE: Students pursuing the curriculum in Ceramic Art must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Fine Arts.

SUGGESTED CURRICULUM IN COMMERCIAL ARTS AND ILLUSTRATION

For students majoring in Commercial Arts and Illustration, the following sequence of courses is suggested.

FIRST YEAR

Fine Arts (421)	5	Fine Arts (423)	5	Fine Arts (431)	5
Geology (401)	5	Geology (402)	5	English (401)	5
History (401)	5	History (402)	5	Psychology (401)	5
Fine Arts (476)	1	Fine Arts (477)	1	Fine Arts (478)	1
Military Science	1	Military Science	1	Military Science	1
Physical Education	1	Physical Education	1	Physical Education	1
Hygiene (400)	1				

SECOND YEAR

English	(430) 5	English	(422) 5	Fine Arts	(442) 5
Fine Arts	(424) 5	Fine Arts	(432) 5	Fine Arts	(461) 5
French	(401) 5	French	(402) 5	French	(403) 5
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1

THIRD YEAR

Fine Arts	(451) 5	Fine Arts	(452) 5	Fine Arts	(453) 5
Fine Arts	(425) 5	Fine Arts	(562) 5	Fine Arts	(544) 5
Fine Arts	(441) 5	or	5	or	5
or	5	Fine Arts	(534) 5	Fine Arts	(545) 5
Fine Arts	(560) 5	Fine Arts	(533) 5	Fine Arts	(535) 5

FOURTH YEAR

Fine Arts	(565) 5	Fine Arts	(566) 5	Fine Arts	(567) 5
Fine Arts	(657) 5	Fine Arts	(658) 5	Fine Arts	(659) 5
Fine Arts	(661) 5	Fine Arts	(662) 5	Fine Arts	(663) 5

NOTE: Students pursuing the curriculum in Commercial Arts and Illustration must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements suggested above, the student will be recommended for the degree of Bachelor of Fine Arts.

SUGGESTED CURRICULUM IN INTERIOR DECORATION

For students majoring in Interior Decoration, the following sequence is suggested.

FIRST YEAR

Fine Arts	(401) 2	Fine Arts	(402) 2	Fine Arts	(423) 5
Engr. Drawing	(411) 4	Engr. Drawing	(412) 4	English	(401) 5
Geology	(401) 5	Geology	(402) 5	French	(401) 5
History	(401) 5	History	(402) 5	Military Science	1
Military Science	1	Military Science	1	Physical Education	1
Physical Education	1	Physical Education	1		
Hygiene	(400) 1				

SECOND YEAR

French	(402) 5	French	(403) 5	Fine Arts	(431) 5
Architecture	(413) 3	Architecture	(414) 3	Architecture	(415) 3
English	(430) 5	English	(442) 5	Fine Arts	(478) 1
Fine Arts	(476) 1	Fine Arts	(477) 1	Economics	(401) 5
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1

THIRD YEAR

Fine Arts	(451) 5	Fine Arts	(452) 5	Fine Arts	(453) 5
Fine Arts	(441) 5	Fine Arts	(432) 5	Fine Arts	(544) 5
Economics	(402) 5	Fine Arts	(424) 5	Fine Arts	(534) 5

FOURTH YEAR

Fine Arts	(565) 5	Fine Arts	(566) 5	Fine Arts	(567) 5
Fine Arts	(661) 5	Fine Arts	(662) 5	Fine Arts	(663) 5
Fine Arts	(657) 5	Fine Arts	(658) 5	Fine Arts	(659) 5

NOTE: Students pursuing the curriculum in Interior Decoration must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements suggested above, the student will be recommended for the degree of Bachelor of Fine Arts.

LANDSCAPE ARCHITECTURE

The curriculum in Landscape Architecture is designed to give the student who intends to become a professional landscape architect, training in the application of the principles of design and the technical knowledge necessary to carry out his work.

FIRST YEAR

English	(410) 3	English	(411) 3	English	(412) 3
Engr. Drawing	(411) 4	Botany	(401) 5	Botany	(402) 5
Architecture	(413) 3	Architecture	(414) 3	Architecture	(415) 3
Fine Arts	(401) 2	Fine Arts	(402) 2	Fine Arts	(403) 2
Fine Arts	(509) 2	Fine Arts	(510) 2	Fine Arts	(511) 2
Military Science	1	Military Science	1	Military Science	1
Physical Education	1	Physical Education	1	Physical Education	1
Hygiene	(400) 1				

SECOND YEAR

Fine Arts	(451) 5	Fine Arts	(452) 5	Fine Arts	(453) 5
Fine Arts	(404) 2	Fine Arts	(405) 2	Fine Arts	(407) 2
Fine Arts	(431) 5	Mathematics	(431) 5	Geology	(430) 5
Fine Arts	(512) 3	Fine Arts	(513) 3	Fine Arts	(514) 3
Fine Arts	(521) 2	Fine Arts	(522) 2	Fine Arts	(523) 2
Military Science	1	Military Science	1	Military Science	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Physical Edu. (Women)	1

THIRD YEAR

Fine Arts	(408) 3	Fine Arts	(411) 3	Fine Arts	(412) 3
Fine Arts	(515) 5	Fine Arts	(516) 5	Fine Arts	(517) 5
Fine Arts	(524) 2	Fine Arts	(525) 2	Fine Arts	(526) 2
Civil Engr.	(412) 5	Elective	8	Horticulture	(444) 5
Fine Arts	(530) 3			Elective	3

FOURTH YEAR

Fine Arts	(518) 8	Fine Arts	(519) 8	Fine Arts	(520) 8
Fine Arts	(541) 3	Fine Arts	(542) 3	Fine Arts	(543) 3
Fine Arts	(551) 5	Fine Arts	(552) 5	Fine Arts	(553) 5

NOTE: Students pursuing the curriculum in Landscape Architecture must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Fine Arts.

SUGGESTED CURRICULUM IN VOICE LEADING TO THE DEGREE OF BACHELOR OF MUSIC

The general statements regarding subjects in the teacher-training curricula (pp. 45-51) do not apply to this curriculum.

FIRST YEAR

Music	(501) 2	Music	(502) 2	Music	(503) 2
Music	(504) 1	Music	(505) 1	Music	(506) 1
Music	(476) 3	Music	(478) 3	Music	(479) 3
Italian	(401) 5	Italian	(402) 5	English	(401) 5
*Science	5	*Science	5	Music	(A) 1
Music	(A) 1	Music	(A) 1	Physical Education	1
Hygiene	(400) 1	Physical Education	1	Military Science	1
Physical Education	1	Military Science	1	Elective	3
Military Science	1				

SECOND YEAR

Music	(540) 2	Music	(541) 2	Music	(542) 2
Music	(525) 1	Music	(526) 1	Music	(527) 1
Music	(482) 3	Music	(483) 3	Music	(462) 3
Music	(460) 3	Music	(461) 3	English	(430) 5
History	(401) 5	History	(402) 5	Music	(A) 1
Music	(A) 1	Music	(A) 1	Physical Edu. (Women)	1
Physical Edu. (Women)	1	Physical Edu. (Women)	1	Military Science	1
Military Science	1	Military Science	1	Elective	1

THIRD YEAR

Music	(545) 3	Music	(546) 3	Music	(547) 3
Music	(463) 3	Music	(430) 4	Music	(431) 4
**French	(401) 5	Music	(465) 3	Music	(468) 3
Fine Arts	(476) 1	French	(402) 5	Fine Arts	(478) 1
Music	(A) 1	Fine Arts	(477) 1	Music	(A) 1
Elective	2	Music	(A) 1	Elective	3

*** FOURTH YEAR

Music	(550) 4	Music	(551) 4	Music	(552) 4
Music	(601) 4	Music	(603) 4	Music	(619) 1
Music	(617) 1	Music	(618) 1	Music	(605) 3
**German	(401) 5	German	(402) 5	Music	(A) 1
Music	(A) 1	Music	(A) 1	Elective	6

* Selection of science courses should be approved by the Chairman of the Department of Music.

** Students entering with credit for two years of high school French or German may be excused from the requirement of college courses in this language upon authorization of the Chairman of the Department of Music.

*** All students must complete registration with the Appointments Office before presenting the schedule for the last Quarter for approval.

NOTE: No student is to receive credit for more than 110 credit hours in music courses during the four-year period.

NOTE: Students pursuing the suggested curriculum in Voice leading to the degree Bachelor of Music must secure the approval of the departmental adviser upon each Quarter's schedule before presenting the schedule card at the Registrar's Office. The adviser's approval must be indicated by his signature on the Secretary's section of the schedule card.

REQUIREMENTS FOR A DEGREE

Upon the satisfactory completion of one hundred and ninety Quarter-credit hours, under the restrictions and requirements prescribed above, the student will be recommended for the degree of Bachelor of Music.

SEQUENCE OF COURSES FOR MAJORS AND MINORS

MAJOR IN THE BIOLOGICAL SCIENCES

A suggested sequence of courses in biological sciences for students in the College of Education majoring in the biological sciences:

FIRST YEAR: Zoology 401-402, 403 or Botany 401-402, 405.

SECOND YEAR: Botany 401-402, 405 or Zoology 401-402, 403.

THIRD YEAR: Physiology 407, 408, Principles of Education 705.

FOURTH YEAR: Zoology 625-626-627, or Botany 605-606, Entomology 451.

NOTE: Chemistry 401-402 or 411-412 should be taken sometime during the first two years as essential to the understanding of biological processes.

CHEMISTRY-MATHEMATICS-PHYSICS COMBINATIONS

The three following sets of sequences are suggested as programs in the fields of specialization for students who desire certification in a combination of the three fields—chemistry, mathematics and physics. The first program will qualify for certification with a major in chemistry, a minor in mathematics, and a minor in physics; the second for a major in mathematics, a minor in physics, and a minor in chemistry; the third for a major in physics, a minor in mathematics, and a minor in chemistry.

These sequences are not required but are recommended as substitutes for the major and minors specified by the General Curriculum in case of students who desire the three-subject combinations represented. Persons desiring a major in chemistry, mathematics, or physics with minors in subjects not in this combination should follow the General Curriculum and select the courses in the major with the help of the adviser in the major field.

NOTE: Students pursuing one of the following combination programs are exempt from the ten-hour requirement in biological science as specified on page (45). It is strongly recommended, however, that such students choose at least ten hours in biological science as electives.

SUGGESTED SEQUENCES LEADING TO A MAJOR IN CHEMISTRY, MINOR IN MATHEMATICS, AND MINOR IN PHYSICS

FIRST YEAR:	Chemistry 401, 402, 403 or Chemistry 411, 412, 413 Mathematics 421, 422, 423 or Mathematics 431, 432, 433	15 Quarter hours
SECOND YEAR:	Chemistry 451, 452, 561 Mathematics 441, 442	15 Quarter hours 10 Quarter hours
THIRD YEAR:	Chemistry 661, 662 Physics 401, 402, 409	6 Quarter hours 15 Quarter hours
FOURTH YEAR:	Chemistry 681, 691, 682, 692, 683, 693	15 Quarter hours
TOTAL:	Chemistry 51 Quarter hours, mathematics 25 Quarter hours, physics 15 Quarter hours.	

NOTE: The requirement for the minor in physics is met by 15 Quarter hours in physics and 15 Quarter hours in physical chemistry.

LIST OF ELECTIVES IN CHEMISTRY FOR THOSE WHO WISH TO ENLARGE THEIR MAJOR

Chemistry 415	3 hours	Chemistry 695	3 hours
Chemistry 422	4 hours	Chemistry 696	3 hours
Chemistry 423	4 hours	Chemistry 782	1 hour
Chemistry 625	5 hours	Chemistry 783	1 hour
Chemistry 672	3 hours		

SUGGESTED SEQUENCES LEADING TO MAJOR IN MATHEMATICS, MINOR IN PHYSICS, AND MINOR IN CHEMISTRY

FIRST YEAR:	Mathematics 421, 422, 423 or Mathematics 431, 432, 433 Chemistry 401, 402, 403 or Chemistry 411, 412, 413	15 Quarter hours 15 Quarter hours 15 Quarter hours 15 Quarter hours
SECOND YEAR:	Mathematics 441, 442, 443 Physics 403, 404, 409 Chemistry 561	15 Quarter hours 15 Quarter hours 5 Quarter hours
THIRD YEAR:	Physics 15 Quarter hours as follows: Seven Quarter hours to be elected during one Quarter and four Quarter hours during each of the other two Quarters from the following courses: Physics 607, 608, 609, 610, 611, 616, 620, 621, 622.	
FOURTH YEAR:	Mathematics 621, 623	10 Quarter hours
TOTAL:	Mathematics 40 Quarter hours, physics 30 Quarter hours, chemistry 20 Quarter hours.	

SUGGESTED SEQUENCES LEADING TO A MAJOR IN PHYSICS, MINOR IN MATHEMATICS, AND A MINOR IN CHEMISTRY

Physics 401, 402 or Physics 403, 404	10 Quarter hours
Physics 409	5 Quarter hours
Physics 616	9 Quarter hours
Physics 12 Quarter hours to be selected from the following courses: Physics 607, 608, 609, 610, 611, 612, 620, 621, 622.	
Physics total	36 Quarter hours
Mathematics 421, 422, 423 or Mathematics 431, 432, 433	15 Quarter hours
Mathematics 441, 442, 443	15 Quarter hours
Mathematics total	30 Quarter hours
Chemistry 401, 402, 403 or Chemistry 411, 412, 413	15 Quarter hours
Chemistry 562	5 Quarter hours
Chemistry 563 (Physical Chemistry)	5 Quarter hours
Chemistry total	25 Quarter hours
NOTE: The requirement of 40 Quarter hours in physics for a major is met by 36 Quarter hours physics and 5 Quarter hours of physical chemistry (Chemistry 563).	

FIRST MINORS IN COMMERCIAL SUBJECTS

MINOR IN ACCOUNTING

Accounting	(401) 5	Accounting	(601) 5
Accounting	(402) 5	*Elective	10

* Must be advanced courses in Accounting, Business Organization, Economics, or Geography.

MINOR IN COMMERCIAL GEOGRAPHY

Geography	(401) 5	Geography	(631) 3
Geography	(403) 5	*Elective	9
Geography	(422) 8		

* Must be advanced courses in Geography from the "600" group.

MINOR IN OFFICE PRACTICE

Business Organization	(621) 3	Business Organization	(691) 3
Business Organization	(604) 3	Business Organization	(640) 3
Business Organization	(605) 3	*Elective	10

* Must be advanced courses in Accounting or in Business Organization, or in both, and in the "600" group.

MINOR IN RETAIL SELLING

Business Organization	(700) 5	Accounting	(623) 3
Business Organization	(712) 4	*Elective	10
Business Organization	(705) 4		

* Must be advanced courses in Accounting, Geography, or Business Organization, and in the "600" group.

MINOR IN JOURNALISM

Journalism	(401) 5	Journalism	(502) 3
Journalism	(402) 5	*Elective	9
Journalism	(501) 3		

*Must be advanced courses in Journalism from the "600" group.

MAJOR IN ENGLISH

A suggested sequence of courses in English for students of the *College of Education majoring in English*:

FIRST YEAR: English 401, 430, Public Speaking 401, 402.

SECOND YEAR: English 442, 450, 405, 528, Public Speaking 401.

THIRD YEAR: English 507, 529, 543, 627, 636, 639, 641, 644, 651, 652, 653, 657, 658, 659, Public Speaking *459, 614, Principles of Education 714 and 662, or 714, 340 and 341.

FOURTH YEAR: English 654, 655, 656, 658, 670, 676, 677, Public Speaking 621, 625.

* Early in the Spring Quarter a speech test will be given by the Division of Public Speaking to determine who shall take and who may be excused from this course. (See description of course on page 126.) Appointments for the speech test should be made in Room 121, Derby Hall.

MINORS IN FINE ARTS

FIRST MINOR

Elementary Freehand Drawing	(421) 5	Appreciation of the Popular Arts	(478) 1
Advanced Freehand Drawing	(423) 5		
Elementary Design	(431) 5	Art Structure in Elementary Teaching	(569) 5
Appreciation of the Plastic Arts	(476) 1	Watercolor Painting	(407) 2
Appreciation of the Pictorial Arts	(477) 1		

SECOND MINOR

Elementary Freehand Drawing	(421) 5	Appreciation of the Pictorial Arts	(477) 1
Advanced Freehand Drawing	(423) 5		
Elementary Design	(431) 5	Appreciation of the Popular Arts	(478) 1
Appreciation of the Plastic Arts	(476) 1		

SUGGESTED CURRICULA FOR TEACHER PREPARATION IN FRENCH, SPANISH, AND GERMAN

To supplement the General Curriculum, page (52).

The sequences in French, Spanish, and German are based on two years of high school preparation. Students entering with more or less than two years high school preparation should confer as soon as possible with the departments concerned and with the supervisor of practice teaching of foreign languages. Courses in specialized subject matter (indicated by *) are prerequisite to practice teaching. Such courses should be taken during the Junior year unless postponed by the joint action of the department and the supervisor. Majors in Spanish and German are urged to plan to do practice teaching during the Autumn Quarter of their senior year. Principles of Education 410 (a prerequisite to prac-

tice teaching) should be taken prior to or concurrent with the special methods courses.

French 401-402-403-404, or the equivalent, must precede all other courses in French except 405.

Spanish 401-402-403-404, or the equivalent, must precede all other courses in Spanish.

German 401-402-403-404, or the equivalent, must precede all other course in German except 406 and 407, to which 403 is prerequisite.

FRENCH

FIRST YEAR

French	(403) 5	French	(404) 5	French	*(410) 5
--------	---------	--------	---------	--------	----------

SECOND YEAR

French	(413) 5	French	(414) 5
--------	---------	--------	---------

THIRD YEAR

French	(632) 5 or French	(632) 5	French	*(628) 3
--------	-------------------	---------	--------	----------

A minimum of seven hours selected during third and fourth years from:

I. Literary: French 602 (5); 610 (3); 612 (3)

II. Linguistic: French 623 (3); 624 (3); 625 (3); 629 (3).

FOURTH YEAR

Prin. of Edu.	(740) 3	Prin. of Edu.	(440) 7
---------------	---------	---------------	---------

SPANISH

FIRST YEAR

Spanish	(403) 5	Spanish	(404) 5	Spanish	*(410) 5
---------	---------	---------	---------	---------	----------

SECOND YEAR

Spanish	(413) 5	Spanish	(414) 5
---------	---------	---------	---------

THIRD YEAR

Spanish	*(617) 3	Spanish	*(620) 5	Prin. of Edu.	(410) 4
				Prin. of Edu.	(745) 3

A minimum of seven hours elected during third and fourth years from:

I. Literary: Spanish 607 (5); 610 (5); 616 (5); 630 (5)

II. Linguistic: Spanish 605 (3); 616 (5).

FOURTH YEAR

Prin. of Edu.	(440) 7
---------------	---------

GERMAN

FIRST YEAR

German	(403) 5	German	(404) 5	Advanced German with German	(407) 5
--------	---------	--------	---------	--------------------------------	---------

SECOND YEAR

Advanced German with German	(408) 5	Proseminary	3	Proseminary	3
--------------------------------	---------	-------------	---	-------------	---

THIRD YEAR

German	*(655) 3	German	*(685) 3	German	(675) 3
Proseminary	3	Proseminary	3	Prin. of Edu.	(410) 4

FOURTH YEAR

Prin. of Edu.	(725) 3	†Proseminary or German	(695)	†Proseminary or German	(695)
				Prin. of Edu.	(440) 7

* Specialized subject matter courses prerequisite to Principles of Education 440 (Practice Teaching).

† Recommended by the department. Recommended in addition: Advanced English Literature (one Quarter); Principles of the Historical Study of Language (Greek 701, 3 hours); and a course in the History of Germany.

NOTE: While the literary courses above are suggested as most valuable to prospective teachers, others may be substituted in conference with the departments and the supervisor of practice teaching of foreign languages. Minors in French, Spanish, and German should consist usually of the first two years work listed above and as much as possible of the specialized subject-matter and professional work of the third year.

MAJOR IN GEOGRAPHY

A suggested sequence of courses for students planning to teach geography in the elementary and secondary schools.† This sequence in geography is arranged so that the student may take two or more courses in geology, counting them as part of the geography sequence.

FIRST YEAR: Geography 401, 403, Geology 420

SECOND YEAR: Geology 401, Geography 411, 422, 603

THIRD YEAR: Geography 621 or 623, 624, 631

FOURTH YEAR: Geography 604, 632, 661, 642

† Students preparing to teach commercial geography should take the special curriculum, page 68.

FIRST MINOR IN GEOGRAPHY

The following sequence of courses is recommended for students wishing to take a minor in geography: Geography 401, 403, 411, 422, 605, 621, 623.

FIRST MINOR IN GUIDANCE

A Suggested Group of Courses for Students Desiring a First Minor in Guidance

Prac. Arts and Voc. Edu.	(470) 3	Prac. Arts and Voc. Edu.	(610) 3
Fundamentals in Guidance		Occupational Studies in High and	
Psychology	(640) 3	Continuation Schools	
Educational and Vocational		Psychology	(613) 3
Guidance		Mental and Educational Tests	
Prac. Arts and Voc. Edu.	(607) 2	Psychology	(678) 3
Occupational Counseling		Psychology of Personality	

And six hours additional from the following:

Psychology	(610) 3	Psychology	(652) 3
Adolescence		Psychology of High School Subjects	
Psychology	(408) 2	Psychology	(608) 4
Mental Hygiene		Educational Statistics: Elementary	

NOTE: School counselors are almost invariably experienced teachers, hence students without teaching experience who elect a guidance minor, as a rule, should not expect immediate employment of that character.

SECOND MINOR IN GUIDANCE

A Suggested Group of Courses for Students Desiring a Second Minor in Guidance

Prac. Arts and Voc. Edu.	(470) 3	Prac. Arts and Voc. Edu.	(610) 3
Fundamentals in Guidance		Occupational Studies in High and	
Psychology	(640) 3	Continuation Schools	
Educational and Vocational		Psychology	(613) 3
Guidance		Mental and Educational Tests	
Prac. Arts and Voc. Edu.	(607) 2	Psychology	(678) 3
Occupational Counseling		Psychology of Personality	

NOTE: School counselors are almost invariably experienced teachers, hence students without teaching experience who elect a guidance minor, as a rule, should not expect immediate employment of that character.

MAJOR IN HISTORY

Sequence of courses in history and allied subjects for students of the *College of Education* majoring in history:

FIRST YEAR: History 401-402, or 403-404 (required)

NOTE: The student may elect the sequence History 407-408-409 instead of the four fundamental courses 401, 402; 403, 404.

SECOND YEAR: History 403-404, or 401-402 (required); Political Science 401, and either 402 or 403 (required); Fine Arts 451 or 452 or 453 (elective); Geography 401 (elective).

THIRD AND FOURTH YEARS: Sufficient additional work in history to fulfill the requirements for a major. Of this work at least ten hours must be in the "600" group.

NOTE: Students majoring in history must take Principles of Education 663 (or 384 and 385) and 700 in addition to the required number of hours in history.

RECOMMENDED ELECTIVES

Economics 401 and 402, or 407; Fine Arts 476 and 477; Philosophy 601 or 602 or 603; Sociology 401; Geography 401 or 403.

FIRST MINOR IN HISTORY

A suggested sequence of courses for students of the *College of Education* minoring in history:

History	(401) 5	History	(403) 5
History	(402) 5	History	(404) 5

Five additional hours in history.

NOTE: Students electing a first minor in history must take either Principles of Education 700 or 663, in addition to the required number of hours in history.

SECOND MINOR IN HOME ECONOMICS

Combination I. For those who have a general interest in the various phases of home economics:

Home Economics	(404) 5	Home Economics	(518) 5
*Home Economics	(406) 5	Home Economics	(520) 3
Home Economics	(510) 5		

Combination II. For those who wish special emphasis on foods and nutrition. Note that for Home Economics 411, Chemistry 402 or 412 is prerequisite or concurrent.

Home Economics	(404) 5	Home Economics	(509) 3
Home Economics	(411) 5	*Home Economics	(518) 5
Home Economics	(412) 5		

* Students having credit for one unit in high school home economics may omit this course. In this case, 18 hours will satisfy the requirements for the second minor.

Combination III. For those who wish special emphasis on textiles and clothing. Note that for Home Economics 401, Fine Arts 426 is prerequisite or concurrent and that for Home Economics 402, Chemistry 402 or 412 is prerequisite or concurrent.

Home Economics	(401) 5	*Home Economics	(518) 5
Home Economics	(402) 5	Home Economics	(520) 3
Home Economics	(510) 5		

* Students having credit for one unit in high school home economics may omit this course. In this case, 18 hours will satisfy the requirements for the second minor.

MAJOR IN LATIN

A suggested sequence of courses in Latin for students of the College of Education majoring in Latin:

FIRST YEAR: Latin 401-402-403 or Latin 406-407-408

SECOND YEAR: Latin 451 or 507; 454; 408, 506, 508 or 602.

THIRD YEAR: Latin 453, 507, 615, or Principles of Education 730 (Methods of Teaching Latin); Latin 454 or 612; 506, 508, 602, 609, 611, 618, or 616, Principles of Education 410.

FOURTH YEAR: Latin 453, 507, 615, or Principles of Education 440 (Practice Teaching); Latin 454 or 612; 506, 508, 602, 609, 611, 613, or 616.

NOTE: Students who elect more than one course in a given Quarter should distribute their courses among the three types of work: reading courses, lecture courses, professional work.

NOTE: Students are urged to take Principles of Education 730 (Special Methods) during the Junior year and Principles of Education 440 (Practice Teaching) in the Autumn Quarter of the Senior year.

FIRST MINOR IN MUSIC

The following sequence is recommended to fulfill the requirements of a minor in school music:

Music	(476) 3	Music	(442) 3
Music	(478) 3	Music	(448) 3
Music	(479) 3	Music	(459) 1
Music	(430) 4	Music	(449) 2
Music	(431) 4	Music	(450) 2

In addition to the courses above, students minoring in school music must have a degree of proficiency in singing and in piano playing satisfactory to the department.

Students completing a four-year course with a minor in school music are not eligible to supervise music or to teach music in high school. They may, however, teach in the public schools under the direction of a supervisor or may teach non-credit music courses in high schools.

Students may also choose a minor in music looking toward a cultural broadening and not toward preparation for teaching. The following courses are suggested:

Music	(430) 4	Music	(478) 3
Music	(431) 4	Music	(460) 3
Music	(601) 4	Music	(461) 3
Music	(603) 4	Music	(462) 3
Music	(476) 3		

It is recommended that work in applied music be taken also.

FIRST MINOR IN PHYSICAL EDUCATION

NOTE: Students planning to minor in Physical Education should first consult with the department. Men should see the Chairman of the Department of Physical Education, at the Men's Gymnasium. Women should see the Chairman of the Department of Physical Education at Pomerene Hall.

MEN

A suggested sequence of courses for students planning to teach Physical Education in elementary and secondary schools:

SECOND YEAR: Physical Education 441, 442

THIRD YEAR: Physical Education 445, 683, 691

FOURTH YEAR: Physical Education 682, 692

NOTE: Prerequisites for all students who minor in Physical Education are: one unit of high school chemistry or Chemistry 401-402, and Physiology 407 and 408 or 409.

A suggested sequence of courses for students planning to coach athletics in connection with other teaching:

SECOND YEAR: Physical Education 443

THIRD YEAR: Physical Education 446, 447, 683

FOURTH YEAR: Physical Education 449, 682, 685, 692

NOTE: Prerequisites for all students who minor in Physical Education are: one unit of high school chemistry or Chemistry 401-402, and Physiology 407 and 408 or 409.

WOMEN

Students planning to take a *first minor* in Physical Education preparatory to teaching in the elementary and secondary schools should take the following sequence:

FIRST YEAR: Chemistry 401-402 or 411-412

SECOND YEAR: Physical Education 541, 542, 543

Physiology 407-408-409

THIRD YEAR: Physical Education 545, 683, and 547 or 551

FOURTH YEAR: Physical Education 692, 682

Those wishing to teach in colleges should take the following sequence as a first minor:

FIRST YEAR: Chemistry 401-402 or 411-412

SECOND YEAR: Physical Education 541, 542

Physiology 407-408-409

THIRD YEAR: Physical Education 545, 546, 547, 683

FOURTH YEAR: Physical Education 550, 692, 682

Students wishing to supervise Community Recreation work should take the following as a first minor:

FIRST YEAR: Chemistry 401-402 or 411-412

SECOND YEAR: Physical Education 541, 542, 543

Physiology 407-408-409

THIRD YEAR: Physical Education 550, 551, 683

FOURTH YEAR: Physical Education 692, 682

NOTE: Chemistry 401-402 or 411-412 and Physiology 407-408-409 are prerequisites for the minor.

SECOND MINOR IN PHYSICAL EDUCATION

WOMEN

Students planning to take a *second minor* in Physical Education preparatory to doing assistant teaching in the elementary and secondary schools should take the following sequence:

FIRST YEAR: Physical Education 410

SECOND YEAR: Physiology 407 or 408 or 409 (A prerequisite is not counted in the total number of credits)

Physical Education 541 or 542

THIRD YEAR: Physical Education 546 or 547 or 549 or 550.

FOURTH YEAR: Physical Education 682 or 683

Physical Education 643

ELECTIVE: 2 hours

Special permission to pursue this second minor must be secured from the Chairman of the Department.

MAJOR IN PSYCHOLOGY

The following sequence of courses is suggested for those who may wish to major in Psychology, as preparation for psychological work in the schools:

FIRST YEAR: Psychology 401 (required, College of Education)

SECOND YEAR: Psychology 407 (required, College of Education)

THIRD YEAR: Psychology 662, 611, 610, 616

FOURTH YEAR: Psychology 650 (year), 609, 615, 652, 640

NOTE: It is strongly urged that students contemplating such a course consult with the department, as early as possible, with regard to other electives and the choice of a minor subject.

MAJOR IN THE SOCIAL STUDIES

Students whose primary interest is in economics, political science or sociology and who wish to do supervised teaching will not be allowed to count more than twenty hours of these subjects toward a major in the social studies. The remaining twenty-five hours must be in history, including History 401, 402, 403, and 404 or their equivalents. The following professional courses are also required of students electing this major: Principles of Education 663 and 700 or 384-385 and 700.

MINOR: THE VISITING TEACHER

The following sequence of courses in Sociology is recommended as a minor for students in the College of Education interested in the work of the visiting teacher:

Sociology	(401) 5	Sociology	(668) 5
Sociology	(402) 5	Sociology	(695) 3
Sociology	(620) 3		

And one course selected from the following four: 607, 619, 625, 656—total 25 hours.

COMBINATION CURRICULUM

ARTS-EDUCATION

A candidate who has received credit for two hundred and twenty Quarter-hours, including military science, physical education, and hygiene, and who has met all of the requirements of the College of Arts and Sciences for the degree of Bachelor of Arts, as well as all of the requirements of the College of Education for the degree of Bachelor of Science in Education, will be recommended for both degrees. It is possible to meet these double requirements within a period of four and one-quarter years, or thirteen Quarters.

Residence in the Colleges. The student should register in both the College of Arts and Sciences and the College of Education as soon as he decides to become a candidate for both degrees, and in any case not later than the beginning of his third year. A later decision may occasion loss of time. It is possible to apply (to the University Examiner) for double registration as late as the beginning of the last year in residence. The candidate must comply with the requirements of both Colleges and have his course of study approved by the Secretaries of both of these Colleges.

A student entering with advanced credit from other colleges must be in residence in the College of Arts and Sciences and in the College of Education for at least one year. To be eligible for the degree of Bachelor of Arts, he must obtain credit, during the time registered in the College of Arts and Sciences, for at least 45 hours and 90 points in courses listed in the Bulletin of the College of Arts and Sciences; and to be eligible for the degree of Bachelor of Science in Education, he must obtain credit for 45 hours and 90 points in courses listed in this *Bulletin*.

Requirements in Points and Hours. To be eligible for both degrees, Bachelor of Arts and Bachelor of Science in Education, the candidate must have secured credit for 220 hours, including the requirements in military science, physical education, and hygiene, at the rate of not less than 1.8 points per credit hour undertaken. Of these, 160 hours must be gained by taking courses elective in the College of Arts and Sciences. Of the remaining 60 hours, not less than 45 hours must be taken in professional courses of the College of Education, as outlined on page 46 of this *Bulletin*, and points secured for work in professional courses must be at the 1.8 points per hour ratio.

Degrees. In general the candidate will find it necessary to carry on courses in both Colleges throughout at least the last three years of the combination curriculum, completing the work of both Colleges simultaneously. The two degrees will therefore be conferred at the same time. There is no objection, however, to conferring the degrees at different times, if the candidate should order his work in such a way as to make this desirable.

A student who has completed the course in supervised teaching will not be recommended for the degree of Bachelor of Arts until he has met all the requirements for the degree of Bachelor of Science in Education.

DEPARTMENTS OF INSTRUCTION

COURSES OF GENERAL INTEREST

(Survey Courses)

DEAN ARPS, PROFESSORS HENDERSON AND LEIGHTON

Of the following courses, 401 is required of all Freshmen in the College of Education. The remaining courses are especially recommended to Juniors and Seniors as electives.

401. Introductory Survey in Education. One credit hour. Autumn Quarter. Required of all Freshmen in the College of Education. Not open to Sophomores, Juniors, or Seniors except by permission. The Dean and the Junior Dean.

Adaptations and new adjustments to University life and conditions of learning. Self-analysis through tests and questionnaires, interpreted by individual conferences. A consideration of the variety of vocational opportunities in the teaching profession as compared with other occupations.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

605. Foundations of Contemporary Civilization. Five credit hours. One Quarter. Autumn and Winter. Five meetings each week. Mr. Leighton.

This course is designed for all students majoring in subjects falling within the fields of biological and inorganic sciences, mathematics, and psychology. It is elective to other students and may be taken in the second Quarter of the Junior year. It is designed to afford the mature student some insight into the progress of thought in a great province of life to which he has given relatively little attention during his course. The course deals with the changes of thought in religion, ethics, social and political philosophy in relation to the general intellectual and social changes of modern civilization. It concludes with a brief discussion of the chief problems of our present civilization.

608. Development of Modern Science. Five credit hours. One Quarter. Autumn and Winter. Five meetings each week. Fourth year. Mr. Henderson.

This course is designed especially for students who have not majored in science. Its purpose is to give the non-science student a general view of the historical development of scientific ideas, and to dwell upon the nature and validity of scientific hypotheses and theories from a scientific point of view.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Survey of Higher Education for College Teachers.

ACCOUNTING

Office, 309 Commerce Building

ASSOCIATE PROFESSORS HECKERT, TAYLOR AND MILLER, ASSISTANT PROFESSOR WILLCOX, MR. BOLON, MR. FRICKEY, MR. SHONTING, MR. BYERS, AND ASSISTANTS

401-402. Elements of Accounting. Five credit hours. Two Quarters. Both 401 and 402 are given Autumn, Winter, Spring. Three recitations and two two-hour laboratory periods each week. Prerequisite or concurrent, Economics 401-402 or 403-404. All instructors.

The work of the first Quarter consists of the theory of account construction together with the development of books of original entry.

The second Quarter is devoted to the application of accounting principles to the different forms of business organization and the preparation and interpretation of financial statements.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Advanced Principles of Accounting. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures and recitations each week. Commercial Teacher Preparation Curriculum (accounting major), third year. Prerequisite, Accounting 401-402. Mr. Heckert, Mr. Taylor, Mr. Miller, Mr. Shonting, Mr. Byers.

The principles of modern accounting, especially those connected with the corporate balance sheet and income statement. Accounting problems arising in the organization of a corporation. Treatment of capital stock and bond issues, depreciation. Various forms of income statements in typical manufacturing enterprises. Principles of valuation of assets.

602. Advanced Principles of Accounting. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures and recitations each week. Commercial Teacher Preparation Curriculum (accounting major), third year. Prerequisite, Accounting 601. Mr. Taylor, Mr. Miller.

The accounting procedure in connection with corporate reorganizations and dissolutions. Consolidated balance sheets and income statements, branch house accounting, foreign exchange accounting.

603-604. Cost Accounting. Four credit hours. Two Quarters. 603, Autumn and Winter; 604, Winter and Spring. Three lectures and recitations and one two-hour laboratory period each week. Commercial Teacher Preparation Curriculum (accounting major), fourth year. Prerequisite or concurrent, Accounting 601. Not open to students who are taking Accounting 624. Mr. Willcox, Mr. Byers.

Accounting 603: General methods of collecting costs of material, labor, and burden and incorporating them in the books of account. Cost control including the use of the perpetual inventory and various subsidiary ledgers.

Accounting 604: Various methods of distributing burden costs. Presentation of cost data. Problems of cost accounting in multiple process industries.

616. Business Statements. Three credit hours. One Quarter. Autumn, Winter, Spring. Three hours of lectures and problems each week. Prerequisite, Accounting 601. Mr. Bolon.

A study of the different kinds of statements prepared by corporations for the guidance of executives, directors, stockholders, and creditors. The methods used in preparing the necessary statements together with the principles of statement interpretation. Use is made of current statements of well-known corporations. Lectures and problems.

623. Retail Accounting. Three credit hours. Autumn Quarter. Three lectures and recitations each week. Prerequisite, Accounting 401-402. Not open to students taking Accounting 612 or doing major work in the accounting group. Mr. Frickey.

The principles of accounting as applied to the operations of retail merchandising enterprises. A study of the forms and procedure used in retail stores, with particular reference to the systems of department stores, chain stores, and other establishments prominent in the field. This course is intended primarily for students whose major interest is in fields other than accounting.

ADULT EDUCATION

Offices: 300 Education Building; Parents Laboratory
Pre-School, 1966 North High Street

ASSISTANT PROFESSOR CHARTERS, MISS HORNBACK, MISS BENTS,
MISS CURTIS, AND ASSISTANTS

For graduate and advanced undergraduate students desiring to specialize in parental education; for visiting teachers; and for all those who are engaged in working with parents; but more especially for parents themselves who want education in the vocation of parenthood.

Of the courses offered in adult education the one entitled Parental Education is intended primarily for parents whose children are enrolled in the Parents Laboratory Pre-School. It is the concurrent course which enables the parents to profit most from the demonstration program of the school. The other courses anticipate a background of information in such subjects as psychology, sociology, and home economics.

Students desiring specialization in pre-school teaching will be advised concerning a suitable correlation of subjects.

401. Parental Education. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lecture hours, reading, observation in pre-schools and schools, home projects. Mrs. Charters and staff.

Registration in this course is limited to parents whose children are enrolled in the Parents Laboratory Pre-School, and to other parents. It is a fundamental course based on home problems, and provides supervision of home projects. The home projects are correlated with modern educational practices and the psychology of child training through lectures and assigned readings.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

609. Theory and Problems of Adult Education. Two credit hours. Winter Quarter. Two lecture hours, reports, discussions, and extensive reading. Mrs. Charters.

Historical and international survey of the adult education movement. Relation of parental education to the adult-education movement; theories and problems of organization, curriculum material, and methods of teaching parents' study groups. Background course for leaders and others intending to specialize in parental education. Admission only after consultation with instructor.

615. Leadership Training. Three credit hours. Winter Quarter. Three classroom hours, field work, readings. Mrs. Charters.

Lectures, project supervision, and field laboratory work with parents' study groups. Methods of teaching parental education, not subject matter of child study. Only students with an adequate background of psychology, sociology, education, and experience will be admitted for credit.

650. Minor Problems. One or more credit hours. Autumn, Winter, and Spring Quarters. Mrs. Charters.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

815. Advanced Leadership Training.

AGRICULTURAL CHEMISTRY

Office, 211 Townshend Hall

PROFESSOR LYMAN, ASSISTANT PROFESSORS ALMY AND
BURRELL

402. Household Chemistry. Five credit hours. One Quarter. Autumn, Winter, Spring. Three recitations and two three-hour laboratory periods each week. Home Economics, second year. Prerequisite, Chemistry 402 or 412. Mr. Almy, Mr. Burrell.

An introductory course in organic chemistry and its applications to household affairs. Laboratory work consists of a brief introduction to quantitative analysis, followed by the quantitative examination of carbohydrates, fats, and proteins, and other substances of interest in the household.

403. Household Chemistry. Five credit hours. One Quarter. Autumn, Winter, Spring. Three lectures and two three-hour laboratory periods each week. Home Economics, second year. Prerequisite, Agricultural Chemistry 402. Mr. Lyman.

Lectures on the chemistry of human nutrition. Laboratory work on the chemistry of digestion, utilization of food by animals, growth, storage of food reserves, oxidation, and the products of oxidation in the animals.

AMERICAN HISTORY

(See History)

ANATOMY

Office, 410 Hamilton Hall

PROFESSOR LANDACRE, ASSISTANT PROFESSORS SETTERFIELD AND
EDWARDS, MR. YATES, AND ASSISTANTS

410. Visceral Anatomy. Three credit hours. Autumn Quarter. One lecture and four laboratory hours each week. Education-Science Nursing, third year. Mr. Yates.

A lecture and dissection course with special reference to the visceral anatomy of man. This course is designed for women specializing in nursing.

412. Elementary Human Anatomy. Five credit hours. Spring Quarter. Two lectures or recitations and six laboratory or demonstra-

tion hours each week. Physical Education, second year. Prerequisite, Zoology 401 and Anatomy 414. Mr. Edwards.

A brief study of visceral anatomy of the human body followed by a study of the skeleton, joints and muscles as a preliminary to kinesiology.

414. Comparative Anatomy of the Vertebrates. Five credit hours. Winter Quarter. Two lectures and six laboratory hours each week. Physical Education, second year. Prerequisite, Zoology 401. Mr. Edwards.

The anatomy of the cat.

Not open to students who have credit for Anatomy 402 or 614.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

607. Comparative Neurology: Minor Problems. Five credit hours. Autumn Quarter. One lecture or conference and eight laboratory hours each week. Prerequisite, Anatomy 617-618 or an equivalent. Mr. Landacre.

Students will be assigned definite problems on the structure of the central nervous system and sense organs.

608. Comparative Neurology: Minor Problems. Five credit hours. Winter Quarter. One lecture and eight laboratory hours each week. Prerequisite, Anatomy 617-618 or an equivalent. Mr. Landacre.

Students will be assigned definite problems on the structure of the central nervous system and sense organs.

609. Comparative Neurology: Minor Problems. Five credit hours. Spring Quarter. One lecture and eight laboratory hours each week. Prerequisite, Anatomy 617-618 or an equivalent. Mr. Landacre.

Students will be assigned definite problems on the structure of the central nervous system and sense organs.

613. Comparative Anatomy of the Vertebrates. Five credit hours. Autumn Quarter. Two lectures or recitations and two three-hour laboratory periods each week. Prerequisite, Zoology 401-402. Zoology 509 is recommended. Mr. Setterfield.

The anatomy of the vertebrates.

Not open to students who have credit for Anatomy 401 or 406.

614. Comparative Anatomy of the Vertebrates. Five credit hours. Winter Quarter. Two lectures or recitations and two three-hour laboratory periods each week. Prerequisite, Anatomy 406 or 613. Mr. Setterfield.

The anatomy of the vertebrates.

Not open to students who have credit for Anatomy 402.

617. Elementary Neurology. Five credit hours. Autumn Quarter. Two lectures and six laboratory hours each week. Prerequisite, Anatomy 406 or 613 and 619. Mr. Landacre.

The gross structures of the brain and sense organs of the higher mammals with special reference to their functional significance.

Not open to students who have credit for Anatomy 408.

618. **Elementary Neurology.** Five credit hours. Winter Quarter. Two lectures and six laboratory hours each week. Prerequisite, Anatomy 617. Mr. Landacre.

The study of the microscopic structures of the sense organs and of the spinal cord and brain of the higher mammals with special reference to reaction systems.

Not open to students who have credit for Anatomy 409.

ANCIENT ART

(See Classical Languages and Literature)

ARCHITECTURE

Office, 105 Brown Hall

PROFESSOR CHUBB, ASSISTANT PROFESSOR OMAN

413. **Elements of Architecture.** Three credit hours. Autumn Quarter. One lecture, six laboratory hours, and two hours of preparation each week. Landscape Architecture, first year. Elective for students in Fine Arts. Concurrent with Engineering Drawing 411. Mr. Chubb.

Lectures and drawing exercises on architectural elements such as walls, doors, windows, arches, steps, balustrades, moldings, etc.

Not open to students who have credit for Architecture 410.

414. **Elements of Architecture.** Three credit hours. Winter Quarter. One lecture, six laboratory hours, and two hours of preparation each week. Landscape Architecture, first year. Elective for students in Fine Arts. Prerequisite, Architecture 413. Mr. Chubb.

An introductory study of the Classic Orders.

Not open to students who have credit for Architecture 411.

415. **Elements of Architecture.** Three credit hours. Spring Quarter. One lecture, six laboratory hours, and two hours of preparation each week. Landscape Architecture, first year. Elective for students in Fine Arts. Prerequisite, Architecture 414. Mr. Oman.

Lectures and practice on casting shades and shadows as elements of design. Practice in wash rendering.

Not open to students who have credit for Architecture 412.

ART

(See Fine Arts)

ASTRONOMY

Office, Emerson McMillin Observatory

PROFESSOR MANSON, MR. WILLIAMS

401. **Elementary Astronomy.** Five credit hours. One Quarter. Autumn, Winter, Spring. Four lecture, quiz or discussion periods and two hours of laboratory each week. (The two hours of laboratory need

not necessarily be consecutive but should be so if possible.) There will also be a few occasions when students will be expected to be at the Observatory during a part of the evening for additional observations. Prerequisite, elementary algebra and plane geometry. Mr. Manson, Mr. Williams.

An elementary course dealing with fundamental facts, principles and methods of astronomy. It should be followed by Astronomy 402.

402. Elementary Astronomy. Five credit hours. One Quarter. Winter and Spring. Four lecture, quiz or discussion periods and two hours of laboratory each week. (The two hours of laboratory need not necessarily be consecutive but should be so if possible.) There will also be a few occasions when students will be expected to be at the Observatory during a part of the evening for additional observations. Prerequisite, Astronomy 401. Mr. Manson, Mr. Williams.

A continuation of Astronomy 401.

405. Practical Astronomy. Three or five credit hours. Spring Quarter. The time is divided among lecture, quiz, and laboratory periods as seems convenient. Prerequisite, Astronomy 401 and trigonometry. Mr. Manson.

This course consists of the consideration of problems of practical astronomy, such as the determination of time, latitude and azimuth from astronomical observation.

Not open to students who have credit for Astronomy 601.

411. General Astronomy. Five credit hours. Winter Quarter. Five class periods each week. Prerequisite, Mathematics 422 or 431. Mr. Williams.

This course covers much the same topics as Astronomy 401 but in a somewhat different manner and in more detail on account of the superior qualifications of the students. Students who have the necessary qualifications should elect this course rather than Astronomy 401. It should be followed by Astronomy 412.

Not open to students who have credit for Astronomy 401 or 500.

412. General Astronomy. Five credit hours. Spring Quarter. Five class periods each week. Prerequisite, Astronomy 411. Mr. Williams.

A continuation of Astronomy 411.

Not open to students who have credit for Astronomy 402.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

500. Descriptive Astronomy. Five credit hours. One Quarter. Autumn, Winter, Spring. Five class periods each week. No prerequisite except at least Junior standing. Mr. Manson.

This course is designed for students in the senior division who wish to obtain some knowledge of astronomy but have time for only one Quarter's work in the subject. The chief emphasis will be placed on its descriptive and historical aspects. There will be lectures and discussion. Students will have opportunities for observations with telescope and other observatory equipment. There will also be demonstrations by lantern slides.

Not open to students who have credit for Astronomy 401 or 411.

507. Advanced Astronomy. Three or five credit hours. Autumn Quarter. The time is divided among lecture, quiz, and laboratory periods as seems convenient. Students electing this course should consult the instructor regarding prerequisites. Mr. Manson.

This course, together with 608, which is a continuation of it, is designed for students who wish to take advanced work in astronomy other than that given in Astronomy 509-610 or in 605-606. The course will be adapted to the desires and capabilities of the students electing it.

Not open to students who have credit for Astronomy 607.

509. Stellar Astronomy. Five credit hours. Spring Quarter. The time is divided between lecture and laboratory periods as seems convenient. The instructor should be consulted regarding prerequisites. Ordinarily the prerequisites will consist of Astronomy 402, and either high school or college physics. Mr. Williams.

This course deals with that part of stellar astronomy which treats principally of the application of spectroscopy and atomic theory to astronomical problems. Such problems as classification of stellar spectra, giant and dwarf stars, spectroscopic parallaxes, solar and stellar temperatures, stellar evolution and nebulae will be discussed.

Not open to students who have credit for Astronomy 609.

605. Introduction to Celestial Mechanics. Five credit hours. Winter Quarter. Prerequisite, calculus. Students electing Astronomy 605 are advised to take either before this course or concurrently with it a course in differential equations. Mr. Manson.

A discussion of rectilinear motion under the law of inverse squares and under the law of direct distance; central forces, including the character of the orbit under different laws of attraction; the potential and attraction of bodies; the problem of two bodies, including the computation of positions of planets and comets.

606. Introduction to Celestial Mechanics. Five credit hours. Spring Quarter. Prerequisite, Astronomy 605 or equivalent. Mr. Manson.

A discussion of the determination of the orbits of planets and comets; the general integrals of the problems of "n" bodies and an introductory discussion of the problems of three bodies, lunar theory and perturbations.

608. Advanced Astronomy. Three or five credit hours. Winter Quarter. Mr. Manson.

A continuation of Astronomy 507, or by special permission may be taken by students who have not taken Astronomy 507.

610. Stellar Astronomy. Five credit hours. Winter Quarter. The time is divided between lecture and laboratory periods as seems convenient. In Astronomy 610 the laboratory work will consist principally of computations. Prerequisite, Astronomy 402 and trigonometry. A knowledge of calculus is desirable but not essential. Students electing this course should have a liking for work that is mathematical in its nature. Astronomy 509 is not a prerequisite for 610. If so desired, 610 may be followed by 509. Mr. Manson.

This course deals with that part of stellar astronomy which treats principally of stellar motions and distances. Such problems as determination of stellar distances, double stars, the solar motion, and star streaming will be discussed.

BACTERIOLOGY

Office, 210 Pharmacy and Bacteriology Building

PROFESSORS MORREY AND STARIN, ASSISTANT PROFESSORS SPEER AND MASTERS, MRS. HORTON, MR. WEISER, AND ASSISTANTS

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores; they are open to advanced undergraduate and graduate students only. Prerequisite, one year of chemistry and two Quarters of a biological science.

607. General Bacteriology. Five credit hours. One Quarter. Autumn, Winter, Spring. Two class periods and three three-hour laboratory periods each week. Home Economics, third year. Mr. Morrey, Mrs. Masters, Mrs. Horton, Mr. Weiser, and assistant.

This course is a prerequisite to all elective courses in the department and is designed to prepare for special work. The lectures consider the botanical relationships of bacteria, their morphology, classification, effect of physical and chemical environment, action on food material, etc. The laboratory work includes preparation of the ordinary culture media and making of cultures on these media, staining methods, and some typical biochemical actions.

608. Pathogenic Bacteria. Three credit hours. Winter Quarter. Three class periods each week. Prerequisite, Bacteriology 607. Mr. Morrey.

A study of the more important bacteria producing disease in man. Ways of transmission and methods of protection against infectious diseases. Sanitation and the theories of immunity.

609. Pathogenic Bacteria. Three credit hours. Winter Quarter. Three three-hour laboratory periods each week. Prerequisite, Bacteriology 607. Mrs. Masters.

Laboratory work on the more important bacteria producing disease in man, including cultural and staining properties, methods of diagnosis, animal inoculation.

614. Water Examination, Sewage Disposal, Water Filtration. Three credit hours. Winter Quarter. Three class periods each week. Prerequisite, Bacteriology 607. Mr. Morrey.

A study of the organisms concerned in these processes. The modern water filtration and sewage disposal plants of the city of Columbus afford most excellent opportunities for practical demonstration and also for study of special problems.

615. Water Examination, Sewage Disposal, Water Filtration. Three credit hours. Winter Quarter. Three three-hour laboratory periods each week. Prerequisite, Bacteriology 607. Mr. Morrey.

Laboratory work on the organisms discussed in Bacteriology 614.

616. Bacteriological Chemistry. Three credit hours. Spring Quarter. Three class periods each week. Prerequisite, Bacteriology 607. Mr. Morrey.

Enzymes and the theory of their action. Technical uses of bacteria and fungi in the fermentation and allied industries. See Bacteriology 620 for laboratory work connected with Bacteriology 616.

617. Immunity and Serum Therapy. Three credit hours. Autumn Quarter. Three class periods each week. Prerequisite, Bacteriology 607, 608, and 609, or its equivalent. Mr. Starin.

A discussion of the general principles of immunity, including toxins and anti-toxins, bactericidal substances, agglutinins, precipitins, opsonins, etc.

***618. Immunity and Serum Therapy.** Three credit hours. Spring Quarter. Three three-hour laboratory periods each week. Prerequisite, Bacteriology 607, 608, and 609, or equivalent. Mr. Starin.

Laboratory work in the preparation of toxins, antitoxins, antibacterial substances, bacterial vaccines, and in the serological methods of diagnosis.

***619. Pathogenic Protozoa.** Three credit hours. Spring Quarter. Three class periods each week. Prerequisite, Bacteriology 607, 608, and 609, or equivalent. Mr. Starin.

The various protozoal diseases are considered, with special attention to trypanosomiasis,* piroplasmoses, and spirochaetoses.

620. Bacteriological Chemistry. Three credit hours. Spring Quarter. Three three-hour laboratory periods each week. Prerequisite, Bacteriology 607. Mr. Morrey.

Laboratory work in connection with Bacteriology 616.

625-626. Special Technique in Pathogenic Bacteriology. Five credit hours. Autumn and Winter Quarters. Conferences, library, and laboratory work. Prerequisite, Bacteriology 607, 608, and 609, or equivalents. Mr. Starin.

A course in technique in which the student is thoroughly trained in working with such material and methods as are encountered in board of health and hospital laboratories.

627. Special Problems in Pathogenic Bacteriology. Five credit hours. Spring Quarter. Conferences, library, and laboratory work. Prerequisite, Bacteriology 607, 608, 609, 625, and 626, or equivalents. Mr. Morrey.

701. Minor Investigations. Three to five credit hours each Quarter. Autumn, Winter, Spring. A student may enter at the beginning of any Quarter. Prerequisite, Bacteriology 607, 608, 609 and either 617-618, or 625-626 or equivalents. All instructors.

These courses are designed for such students as have completed the equivalent of two years' work in bacteriology and are still undergraduates. The work will be outlined by the instructor in charge to meet the individual student's needs.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Research Work in Pathogenic Bacteriology.

804-805-806. Research Work in Agricultural or in Technical Bacteriology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

* Not given in 1931-1932.

BIBLIOGRAPHY

Office, The Library

ASSOCIATE PROFESSOR JONES AND MEMBERS OF THE LIBRARY STAFF

402. The Use of Books and of Libraries. Two credit hours. One Quarter. Autumn, Winter, Spring. Two class periods each week. No prerequisite. Miss Jones.

A practical course for students in all colleges. It is designed to train students how to use a library with facility by means of a careful study of the catalog, reference books, and bibliographical aids.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501-502-503. The Library and the School. Two credit hours. Autumn, Winter, and Spring Quarters. Two lectures each week. Miss McKee.

A course for teacher-librarians, dealing with the methods of teaching secondary school students how to make use of a library. Practice work is given in such technical library methods as will enable a teacher to take charge of a collection of books in a school building.

601-602-603. History of Book-making. Two credit hours. Autumn, Winter, and Spring Quarters. Two class periods each week. Miss Jones.

Principal topics: Clay tablets, manuscripts, paper making, incunabula, book binding, copyright, book publishing, newspaper publishing, book selling, book illustration, and the history of printing.

BOTANY

Office, 102 Botany and Zoology Building

PROFESSORS TRANSEAU, SCHAFFNER (RESEARCH), STOVER, AND SAMPSON,
ASSOCIATE PROFESSORS WALLER AND TIFFANY, ASSISTANT PROFESSOR MEYER, MISS LAMPE, MR. HUMPHREY, MR. CAMP, MR.
BLAYDES, MR. HORTON, MISS BROWN, MR. GORDON, MR.
HICKS, MR. THUT, AND ASSISTANTS

401. General Botany. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Mr. Sampson, Mr. Waller, Mr. Tiffany, Mr. Meyer, instructors and assistants.

A study of the structure of leaves, stems and roots; growth and nutritive processes of plants, and the relation of plants to their environments. Demonstrations to explain plant processes and field trips dealing with the classification of trees and the effect of the factors of climate and soil on growth, reproduction, duration, and distribution of plants.

402. General Botany. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Mr. Sampson, Mr. Waller, Mr. Tiffany, Mr. Meyer, instructors and assistants.

A study of reproduction, seeds, fruits, variations, heredity and evolution in plants, followed by a general survey of the great climatic formations of the natural vegetation of North America and their relations to the centers of crop distribution; the nutrition and reproduction of bacteria and fungi in relation to decay, nitrate formation, diseases, and sanitation; a survey of the great plant groups, and the classification of some of the common plants of Ohio.

405. Local Flora. Five credit hours. Spring Quarter. Two lectures and six laboratory hours each week. Prerequisite, Botany 401-402. Mr. Tiffany.

The aim of the course is to become familiar with the plants, other than ferns and seed plants, common in Ohio. Laboratory work devoted to identification, by keys and manuals, of common forms of algae, fungi, liverworts, and mosses. Lectures on methods of collection and preservation, chief characteristics, and economic importance of the groups.

406. Local Flora. Five credit hours. Spring Quarter. Two lectures and six hours laboratory and field work each week. Prerequisite, Botany 401-402. Mr. Blaydes.

A laboratory, field and lecture course devoted to classifying the ferns and seed plants common in Ohio. Field characteristics and identification in the field will be emphasized as well as use of manuals and keys.

419. General Plant Pathology. Five credit hours. One Quarter. Autumn and Spring. Three lectures and two two-hour laboratory periods each week. Prerequisite, Botany 401-402. Mr. Stover.

An introduction to the study of the diseases of cultivated plants. The course includes such subjects as: the nature, importance, causes, symptoms, spread, classification, and control of plant diseases; the life history of pathogenic organisms; the course of a plant disease; and the effects of environmental conditions, cultural practices, and the history of the host species upon the occurrence and severity of diseases. A number of representative plant diseases of economic importance are studied in the field and in the laboratory.

421. Plant Microtechnic. Five credit hours. Winter Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Botany 401-402. Mr. Blaydes.

Principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting plant materials for microscopic study.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Plant Ecology. Five credit hours. Autumn Quarter. Three lectures and one four-hour laboratory period each week. Prerequisite, Botany 401-402 and two Quarters of biological work. Mr. Transeau, Mr. Gordon.

Lectures on the vegetation of the Eastern United States with special reference to the plant associations and formations of Ohio. Field work on the associations of the vicinity of Columbus and their successions. Reading of important literature.

602. Plant Ecology. Five credit hours. Spring Quarter. Three lectures and one four-hour laboratory period each week. Prerequisite, Botany 601. Mr. Transeau, Mr. Gordon.

General principles of ecological plant geography. A discussion of associations and successions of the major divisions of the vegetation of North America. Assigned readings of the more important literature. Several Saturday field trips.

605. Plant Physiology. Five credit hours. Autumn Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite, Botany 401-402. Mr. Transeau, Mr. Meyer, Mr. Thut.

The physiology of absorption and movement of water, salts, and gases in plants. The properties of water, solutions, and colloids; permeability, diffusion, absorption, transpiration, and the movement of water in plants.

Not open to students who have credit for Botany 415.

606. Plant Physiology. Five credit hours. Winter Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite, Botany 605 or 415. Mr. Meyer, Mr. Thut.

The physiology of nutrition, growth and movement; photosynthesis, other syntheses, enzymes, digestion, translocation, accumulation, assimilation, respiration, fermentation, growth and movement.

Not open to students who have credit for Botany 416.

607. Principles of Taxonomy: Pteridophytes and Gymnosperms. Five credit hours. Autumn Quarter. Two lectures and six laboratory hours each week. Prerequisite, Botany 401-402 and one additional year of some biological subject. Mr. Schaffner.

A detailed study of phylogeny and evolutionary series based on floral structure and organography.

608. Principles of Taxonomy: Monocotyls. Five credit hours. Winter Quarter. Two lectures and six laboratory hours each week. Prerequisite, Botany 607. Mr. Schaffner.

A study of the groups of monocotyls with special consideration of the taxonomy of the grasses and of the lack of correlation between taxonomic characters and environment.

609. Principles of Taxonomy: Dicotyls. Five credit hours. Spring Quarter. Two lectures and six laboratory hours each week. Prerequisite, Botany 608. Mr. Schaffner.

A general consideration of all the groups of dicotyls, of the origin of angiosperms, and of the progressive or serial development of characters.

611. Evolution of Plants. Five credit hours. Spring Quarter. Lectures and assigned readings. Prerequisite, Botany 401-402 and two additional Quarters of botany. Mr. Schaffner.

The progress of evolution in the plant kingdom with a general discussion of the problems and factors involved, including both the scientific and philosophical aspects of the subject.

613. General Morphology of Thallophytes and Bryophytes. Five credit hours. Autumn Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Botany 401-402. Mr. Blaydes.

A study of the classification and life histories of the algae, fungi, liverworts, and mosses. The laboratory work will consist of a study of the vegetative and reproductive structures of the several groups.

Not open to students who have credit for Botany 409.

614. General Morphology of the Pteridophytes and Spermatophytes. Five credit hours. Winter Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Botany 401-402. Miss Lampe.

A study of the comparative structures and life histories of the ferns, gymnosperms, and angiosperms, giving particular attention to the structure and development of seed plants.

Not open to students who have credit for Botany 410.

619. Economic Botany. Five credit hours. Autumn Quarter. Four lectures and one two-hour laboratory period each week. Prerequisite,

Botany 401-402 and one additional year of biological work. Desirable antecedents, commercial geography, and plant ecology. Mr. Waller.

The world's food resources are examined in the light of botanical problems involving geographic distribution of economic plants. A summary is made of the centers of production of food-producing plants and the relation of these centers to natural plant formations is discussed. Trips to various industrial concerns utilizing plant materials are combined with laboratory examination of plant products.

620. Economic Botany. Five credit hours. Winter Quarter. Four lectures and one two-hour laboratory period each week. Prerequisite, Botany 401-402 and one additional year of biological work. Desirable antecedents, commercial geography, and plant ecology. Mr. Waller.

The fiber and oil producing plants and the forest products are discussed in this course. The same ecological and economic principles discussed in the previous course are applied, and an analysis is made of trade relations of the products to natural environmental factors governing the distribution of the plants. Visits are made to the industrial establishments using the materials discussed.

633. Physiological Methods. Three credit hours. Winter Quarter. Three two-hour laboratory periods each week. Prerequisite or concurrent, Botany 605-606. Mr. Meyer.

A laboratory course of methods in plant physiology such as the determination of osmotic pressure; H-ion concentration and buffer action of plant juices; plant colloids; permeability of plant membranes; the measurement of transpiration, respiration, photosynthesis and growth.

634. Plant Growth. Three credit hours. Spring Quarter. Three lectures each week. Consult instructor before registering. Mr. Sampson.

A study of the physiology of growth. Special attention is given to the inter-related effects of internal and external factors upon growth, movement and reproduction in plants. Bibliographies and reviews of literature.

635. Plant Genetics. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Botany 401-402, Zoology 403, and one additional Quarter of biological science. Mr. Waller.

The study of heredity in plants. Theories of the transmission of heritable characteristics. Research methods in the study of inheritance.

637. Plant Cytology. Five credit hours. Spring Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, four Quarters of botany. Desirable antecedents, Botany 614 and 421. Given biennially alternating with Botany 640. Miss Lampe.

The structure, ontogeny, divisions, and fusions of plant cells.

***640. Plant Anatomy.** Five credit hours. Spring Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Botany 401-402 and two additional Quarters of biology. Given biennially alternating with Botany 637. Mr. Camp.

The origin and development of the organs and tissue systems of vascular plants, and comparative study of the structures of roots, stems, leaves, flowers, and fruits. This course is a desirable antecedent to advanced work in physiology and pathology.

701. Special Problems: Taxonomy, Morphology, Cytology, and Anatomy. Two to five credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, Botany 401-402 and two additional Quarters of some

* Not given in 1931-1932.

biological subject. Mr. Schaffner, Mr. Transeau, Mr. Stover, Mr. Tiffany, Miss Lampe, Mr. Blaydes, Mr. Camp.

703. Special Problems: Physiology and Ecology. Two to five credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, Botany 401-402 and two additional Quarters of some biological subject. Mr. Transeau, Mr. Sampson, Mr. Waller, Mr. Tiffany, Mr. Meyer.

704. Special Problems: Pathology and Mycology. Two to five credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, Botany 401-402 and two additional Quarters of some biological subject. Mr. Stover, Mr. Humphrey.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 705.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

- 801. Research in Taxonomy and Morphology.
- 803. Research in Physiology and Ecology.
- 804. Research in Mycology and Plant Pathology.
- 805. Research in Genetics.
- 806. Research in Economic Botany.
- 810. Botanical Seminary.
- 812. Seminary in the History of Botany.

For description of graduate courses in this department see the Bulletin of the Graduate School.

BUREAU OF EDUCATIONAL RESEARCH

Office, 201 Education Building

PROFESSORS CHARTERS, *CLIFTON, AND HOLY, ASSOCIATE PROFESSORS
ANDERSON AND TYLER, ASSISTANT PROFESSORS COWLEY
AND DALE, AND ASSISTANTS

The purpose of the Bureau of Educational Research is to promote the scientific investigation of educational problems both at the University and in the public schools of the State. It constitutes an agency for cooperative effort among all the school people of Ohio. The facilities of the Bureau are available to all students, faculty members, and school people of Ohio.

Library. The research library contains large quantities of material in the form of manuscripts, pamphlets, bulletins, reports, modern textbooks for elementary and high-school grades, and educational periodicals. This library is in charge of a reference librarian, and her services, to-

* Absent on leave, 1930-1931.

gether with the library material, will be utilized in the preparation of bibliographies and reports on problems presented by those engaged in educational work. This applies to students and faculty members as well as those engaged in the work of the public schools. Unless the problem requires extensive investigation, this service will be rendered gratis.

Courses. In order to make the resources of the Bureau serve for research purposes, students desiring to work in the Bureau may register in certain courses listed in the Departments of School Administration, Psychology, Principles and Practice of Education, and Practical Arts and Vocational Education. Courses must be approved by the chairman of the particular department and by the Director of the Bureau. Such students will be under the direction and supervision of the Bureau staff.

Research Problems. Students taking such courses will be given a practical problem upon which to work. There will be no regular recitation periods, but the student will be in a position to confer with the Bureau staff whenever advisable. According to the nature and exacting character of the problem and of the scholastic status of the student, he may be registered in either of two groups of courses, as follows:

MINOR PROBLEMS. Two to four credit hours. Investigation of minor problems.

Psychology 650

Principles and Practice of Education 651

School Administration 618

Practical Arts and Vocational Education 650-651-652.

MAJOR PROBLEMS. Three or more credit hours. Investigation of problems, leading to preparation of theses for advanced degrees.

Psychology 801

Principles and Practice of Education 851

School Administration 805, 806, and 807

Practical Arts and Vocational Education 801-802-803 and 804.

NOTE: Descriptions of these courses will be found under the department announcements.

BUREAU OF SPECIAL EDUCATION

Office, 321 Education Building

PROFESSOR BERRY

The function of the Bureau of Special Education is to promote the education of all types of exceptional children (the handicapped and the gifted) through field service, teacher training, and research.

Students interested in the work of this bureau should confer with the Director.

Field Service. The objectives of field service are: to assist the smaller communities in organizing the work of special education; to serve in an advisory capacity the communities in which special education has already been organized; and to cooperate with state and local organizations in formulating a state program for the protection, treatment, and training of all types of exceptional children and for the removal of the causes that handicap children.

Teacher Training. No person should prepare to teach exceptional children who has not had successful experience in teaching normal children.

Candidates for the degree of Bachelor of Science in Education who wish to prepare to teach the mentally retarded, behavior problem children or the defective in speech should register in the Curriculum for Teachers, Supervisors, and Principals in Elementary Schools. Students in this curriculum are required to elect 20 additional hours in some one selected field, at the junior-senior level. Those interested in special education may fulfill this requirement by choosing electives from the following courses:

For those preparing to teach the mentally retarded:

Psychology 609, 611, 613, 616
Principles of Education 654, 656
School Administration 674, 836

For those preparing to teach behavior problem children:

Psychology 609, 616, 622, 634, 641
Sociology 625
School Administration 675
Principles of Education 655, 656

For those preparing to teach the defective in speech:

Psychology 609, 616
Phonetics 630, 635, 640
School Administration 660
Principles of Education 656

Research. Students interested in research problems connected with the work of the Bureau of Special Education should register in either of the following two groups of courses:

MINOR PROBLEMS. Two to four credit hours. Investigation of minor problems.

Psychology 650
Principles of Education 651
School Administration 618
Practical Arts and Vocational Education 650-651-652.

MAJOR PROBLEMS. Three or more credit hours. Investigation of problems, leading to preparation of theses for advanced degrees.

Psychology 801
Principles of Education 851
School Administration 805, 806, and 807
Practical Arts and Vocational Education 801-802-803, and 804.

NOTE: Descriptions of these courses will be found under the department announcements.

BUSINESS ORGANIZATION

Office, 107 Commerce Building

PROFESSORS MAYNARD, WEIDLER, HOAGLAND, HELD, WISSLER, AND DUFFUS,
ASSOCIATE PROFESSORS PIKE, REEDER, CORDELL, DAVIS AND BECKMAN,
ASSISTANT PROFESSORS THOMPSON, POWER, AND DAMERON, MR.
DONALDSON, MR. PARRY, MR. BOWERS, MR. RIDDLE, AND
ASSISTANTS

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

604-*605. Business Communications and Adjustment Practice. Three credit hours. Two Quarters. 604, Autumn, Winter, Spring; 605, Winter.

* Not given in 1931-1932.

Three recitations each week. Commercial Teacher Preparation Curriculum (major in office practice), fourth year. Prerequisite, Economics 401-402. Mr. Held.

The principles of effective writing; the requirements of a satisfactory business letter, applications for positions; credit, collection, sales, and promotion correspondence; form letters and form paragraphs. An historical treatment of claims and complaints. Analysis of the present problem of adjustments in such fields as wholesaling, retailing, mail order business, etc. Current method of handling adjustments, by personal conference and correspondence. Administration of adjustments through a separate department; and association with collections or other departments.

620. Public Aspects of Industry. One credit hour. Winter Quarter. Mr. Weidler.

621. Business Law: Contracts. Three credit hours. One Quarter. Autumn, Winter, Spring. Commercial Teacher Preparation Curriculum (major in accounting, office practice, or retail selling), third year. Prerequisite, Economics 401-402. Mr. Power.

A course in the law of contracts for the student of business. A study of the fundamentals of legally binding agreements between persons, and their enforcement; including a study of the making of the contract, consideration, the effect of fraud, duress, undue influence, mistake, illegality, and the statute of frauds, interpretation, discharge and remedies.

623. Business Law: Agency and Sales. Three credit hours. One Quarter. Autumn, Winter, Spring. Commercial Teacher Preparation Curriculum (major in retail selling), third year. Prerequisite, Business Organization 621. Mr. Pike.

A course in the law of agency and sales for the student of business. The fundamentals of the law governing business transactions of persons through agents and the sale of personal property. A continuation of Business Organization 621.

625. Business Law: Negotiable Instruments. Three credit hours. One Quarter. Autumn, Winter, Spring. Commercial Teacher Preparation Curriculum (major in accounting), third year; (major in office practice), fourth year. Prerequisite, Business Organization 621. Mr. Bowers.

A course in the laws governing bills of exchange, promissory notes and checks designed to guide the business man in his daily transactions with such instruments.

627. Business Law: Partnerships and Corporations. Three credit hours. Autumn Quarter. Commercial Teacher Preparation Curriculum (major in accounting), third year; (major in office practice), fourth year. Prerequisite, Business Organization 621; preferably preceded by Business Organization 623. Mr. Pike.

A course designed to give the student of business a practical working knowledge of important laws governing the formation and operation of partnerships and corporations.

640. Corporate Organization and Control. Three credit hours. One Quarter. Autumn, Winter, Spring. Three recitations each week. Commercial Teacher Preparation Curriculum (major in office practice), third year. Prerequisite, Economics 402. Mr. Donaldson.

Types of business enterprise; the corporation; incorporation costs and procedure; taxes; foreign corporations; stockholders' and directors' meetings; rights, duties, obligations and liabilities of stockholders, directors, and officers; intercorporate relations; legislation and court decisions affecting the organization and control of business corporations.

650. Corporation Finance. Five credit hours. One Quarter. Autumn, Winter, Spring. Two lectures and three quiz periods each week. Prerequisite, Economics 402 or Business Organization 640. Mr. Hoagland, Mr. Duffus, Mr. Donaldson, Mr. Parry, Mr. Riddle.

Financial structure and problems of modern business corporations. Common types of securities. Promotion, including parts played by promoter, investment banker and his organization, syndicate, security dealer. Determination, management, and distribution of surplus. Financial problems of expansion, including changes in financial plans. Securing funds for expansion. Failure of corporations and resulting reorganization or liquidation. Financial results of reorganization.

Not open to students who have credit for or are taking Economics 616.

680. Industrial Organization and Management. Five credit hours. One Quarter. Autumn, Winter, Spring. Three lectures and two conferences each week. Prerequisite, Economics 402 or 404. Mr. Davis, Mr. Thompson.

The history, literature, organization and management of industry and the theory of industrial management. The fundamental business applications of the principles developed are emphasized.

Kinds and internal development of organization dealing particularly with problems of interrelation of functions and the purpose and nature of functions operating in the several fields of industrial management, e.g., production, material, and personnel, are presented without detailed study of specific problems.

684. Industrial Management Field Work. Three to six credit hours. One Quarter. Summer, Autumn, Winter, Spring. To be completed before taking advanced courses. Prerequisite, Business Organization 680. Mr. Thompson.

This work will probably carry pay and should be a regular, productive job in an industry. The job must carry the approval of the instructor and be followed by a report both from the employer and the student.

685. Material Organization and Management. Three credit hours. One Quarter. Autumn and Winter. Two lectures and one conference each week. Prerequisite, Business Organization 680. Mr. Wissler.

The organization and management of the problem of materials in industries. A study of the organization and functions of the purchasing, stores, stores controlling departments and that part of the planning, accounting, production, and other departments which directly affect the control of materials. The problems involved and accepted methods of handling and moving materials.

Students will be required to do field work involving visits and inspection of industries and to write constructive reports and a term thesis.

686. Personnel Organization and Management. Three credit hours. One Quarter. Autumn and Spring. Two lectures and one conference each week. Prerequisite, Business Organization 680. Mr. Wissler, Mr. Thompson.

The organization and management of the employment department and the personnel problems within an industry. This course deals particularly with the functions and problems which come within the scope of employment manager, such as hiring, force maintenance, industrial education and welfare. It does not deal with questions of labor organization except in so far as is necessary for proper conception of these problems within an industry.

Students will be required to do field work involving visits and inspection of industries and to write constructive reports and a term thesis.

NOTE: Students taking Business Organization 686 as an elective must have Business Organization 680 as a prerequisite.

687. Production Organization and Management. Three credit hours. One Quarter. Winter and Spring. Three lectures and one conference hour each week. Prerequisite, Business Organization 680. Mr. Thompson.

The problems of organization and management incident to the successful control of production in industry. Treats these problems largely from the point of view of a production manager. Coordinates personnel, equipment, and material to produce the necessary justification of organization in maximum production at least cost.

691. Office Organization and Management. Three credit hours. Spring Quarter. Two lectures and one conference each week. Commercial Teacher Preparation Curriculum (major in office practice), fourth year. Prerequisite, Senior standing. Mr. Wissler.

Administration of offices. Methods of pay. Office manager. Standards, tools, forms, equipment, office machinery. Standard methods. Files, ticklers, mail handling, dictation, messengers. Engineering features. Special office problems of different departments.

700. Marketing. Five credit hours. One Quarter. Autumn, Winter, Spring. Five hours lecture and quiz each week. Commercial Teacher Preparation Curriculum (major in office practice or retail selling), third year. Prerequisite, Economics 401-402. Mr. Beckman, Mr. Reeder, Mr. Cordell, Mr. Dameron.

A general survey of the field of marketing. Critical consideration of functions, policies and institutions in the marketing of agricultural products, raw materials and manufactured goods.

A study of consumers' buying motives and demand and the marketing machinery which serves them. Functions, methods, costs of marketing and marketing problems of the farmer and manufacturer, wholesaler, jobber, commission merchant, selling agent, broker, factor, retailers of various types and other middlemen. Special attention given to principles, trends and policies in their relation to marketing efficiency.

702. Marketing Problems and Market Analysis. Four credit hours. One Quarter. Autumn, Winter, Spring. Four hours lecture and quiz each week. Commercial Teacher Preparation Curriculum (major in retail selling), fourth year. Prerequisite, Business Organization 700. Mr. Cordell.

A consideration of the marketing problems of manufacturers, jobbers, selling agents, commission merchants, factors, brokers, agents, and retailers. Market analysis will be considered with reference to sources of information, procedure, and the use of results of such analyses in determining distribution policies and methods.

705-706. Retailing and Wholesaling. Four credit hours. Two Quarters. 705, Autumn, Winter, Spring; 706, Spring. Four lectures and discussion periods each week. Business Organization 705 or 706 may be taken separately. 705 is in the Commercial Teacher Preparation Curriculum (major in retail selling), fourth year. Prerequisite to either 705 or 706, Business Organization 700. Mr. Beckman, Mr. Maynard.

The first Quarter's work will be devoted to a consideration of the organization and management of retail establishments: store location; store organization; buying; receiving; stockkeeping; inventories; sales systems; store policies; services; expenses and profits; deliveries; personnel problems, etc.

The second Quarter deals with the wholesaler as a link in the chain of distribution; classes of wholesalers; tendencies in wholesaling; wholesale centers; radii of operation; the organization and management of wholesale establishments. Location; organization; stock control; purchasing; receiving; pricing; inventories and stock records; sales systems and organizations; handling orders; shipping; credits and collections; house policies; dealer helps and other services; expenses; profits, etc.

712. Salesmanship and Sales Management. Four credit hours. One Quarter. Autumn, Winter, Spring. Four lecture and discussion periods each week. Commercial Teacher Preparation Curriculum (major in retail selling), third year. Prerequisite, Business Organization 700. Mr. Maynard, Mr. Cordell, Mr. Dameron.

Knowledge of goods; prospecting; study of customers and their wants; buying motives; planning a sale; attitudes of buyers; conducting a sales talk; meeting objections; closing the sale; cultivation of personality.

The second part of the course is devoted to a consideration of problems in sales management; sales organization; sales planning and research; sales policies; sales methods; selecting and training salesmen; territories and quotas; compensation of salesmen; stimulation of salesmen; supervision of salesmen.

716. Principles of Advertising. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lecture and discussion periods each week. Commercial Teacher Preparation Curriculum (major in retail selling), third year. Prerequisite, Business Organization 700 or Senior standing in Journalism. Mr. Maynard, Mr. Dameron.

A survey study of advertising as an instrument of modern business. The place of advertising in business; economics of advertising; advertising research; advertising appropriations; advertising agencies and departments; media; trade-marks; and campaigns. A brief discussion of copy writing; type principles, layout, visualization, methods of advertising reproduction and psychological factors involved in selling.

725. Field Work in Marketing. Three to six credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Business Organization 700. Mr. Maynard, Mr. Beckman.

Before entering upon the fourth year of residence, an opportunity will be given to a limited number of students who have demonstrated their ability, to do one Quarter's work in business under the supervision of the instructional staff. The work will probably carry pay and must be a regular production position in the field of distribution. The position must have the approval of the instructor and a report will be made by both the student and the employer.

CERAMIC ENGINEERING

Office, 131 Lord Hall

PROFESSOR WATTS, ASSOCIATE PROFESSOR CARRUTHERS

401. Occurrence and Properties of Clays. Four credit hours. Winter Quarter. Four lectures and eight hours of preparation each week. Ceramic Art, first year. Mr. Watts.

The origin, occurrence, and distribution of clays and other ceramic materials, their physical properties, and the systems of measuring them.

405. Winning, Preparation, and Forming. Four credit hours. Spring Quarter. Four lectures and eight hours of preparation each week. Ceramic Art, second year. Mr. Carruthers.

The winning and preparation of ceramic materials and the forming of ceramic wares.

605. Bodies, Glazes and Colors. Four credit hours. Spring Quarter. Four lectures and eight hours of preparation each week. Ceramic Art, second year. Prerequisite, Ceramic Engineering 401. Mr. Watts.

Ceramic bodies, glazes, and colors.

615. Ceramic Calculations. Five credit hours. Autumn Quarter. Five recitations and ten hours of preparation each week. Ceramic Art, third year. Prerequisite, Metallurgy 451, 452, and 453. These prerequisites will be waived for students registered in the curriculum in Ceramic Art who have completed freshman chemistry. Mr. King.

Solution of chemical and physical problems involved in compounding ceramic mixtures, including wet blending. Also instruction in development of series, containing one, two, and three variables.

CHEMICAL ENGINEERING

Office 179, 180 Chemistry Building

PROFESSOR WITHROW, MR. VILBRANDT, MR. DUNCOMBE, AND
ASSISTANTS

700. Elements of Chemical Engineering. Two credit hours. Winter Quarter. Prerequisite or concurrent, physical chemistry. Mr. Withrow.

A thorough discussion of the fundamental principles underlying the engineering operations which constitute the body of chemical engineering as a branch of engineering. An introduction is given to the mechanical equipment which is used to carry out these engineering operations in the chemical industries. The relationship between chemical processes and the selection of engineering equipment to carry out the engineering operations demanded by these chemical processes is emphasized. The market demand, economics and chemistry fundamental to or utilized by an industry is referred to as the basis which determines the engineering operations necessary in utilizing the chemistry for productive manufacture. The main detailed engineering operations taken up are: transportation; storage; crushing and grinding; calcination; solution; mixing and agitation; classifying; the separation of solids from liquids by sedimentation, filtration, crystallization, refrigeration, precipitation, evaporation, distillation, and electrolysis; the separation of liquids from liquids; drying; absorption; and the special engineering manipulation required in highly standardized or individualized chemical processes such as gasification, hydrogenation, sulphonation, nitration, chlorination, reduction, cracking, hydroxylation, autoclaving, and impregnation.

701-702. Industrial Chemistry. Three credit hours. Autumn and Winter Quarters. Three lectures each week. Prerequisite or concurrent, physical chemistry, except with special permission of the instructor. Mr. Withrow.

The fundamental lecture course in industrial chemistry, dealing with the problems of the chemical industries, and placing stress upon the economic questions involved in chemical manufacturing; materials of plant construction, as well as the engineering operations involved in chemical engineering, and the principles underlying the applications of chemistry and engineering to a selected number of chemical industries. The work of the Autumn Quarter deals especially with the inorganic industries, while that of the Winter Quarter is related to the organic industries.

***703. Inspection Trip to the East.** No credit hours. Week of May 1, 1933, and odd-numbered years thereafter. Chemical Engineering third and fourth years. Prerequisite: for Seniors, Chemical Engineering 701-702; for Juniors, Chemical Engineering 700. Mr. Withrow, Mr. Duncombe.

The trip includes Rittman, Akron, and Cleveland, Ohio; Buffalo, Niagara Falls, and Rochester, N. Y.; Pittsburgh, Clairton, and McKeesport, Pa. The entire expense need not exceed \$65.00. A satisfactory written report upon the work of the trip and an examination are required.

* Not given in 1931-1932.

704. Inspection Trip to the West. No credit hours. Week of May 1, 1932, and even-numbered years thereafter. Chemical Engineering, third and fourth years. Prerequisite: for Seniors, Chemical Engineering 701-702; for Juniors, Chemical Engineering 700. Mr. Withrow, Mr. Duncombe.

The trip includes Dayton, West Carrollton, Hamilton, Cincinnati, and Ivorydale, Ohio; Kensington, Ill.; Grasselli, and Whiting, Ind.; Chicago and Argo, Ill.; Detroit, Wyandotte, and Midland, Mich. The entire expense need not exceed \$55.00. A satisfactory written report upon the work of the trip and an examination are required.

706. Chemical Engineering and Industrial Chemistry Laboratory. Two to five credit hours. Autumn Quarter. One hour conference and fourteen laboratory hours each week. Prerequisite or concurrent, Chemical Engineering 701, and an acceptable course in analytical chemistry. Mr. Withrow, Mr. Vilbrandt, Mr. Duncombe and assistants.

An introduction to industrial chemical research through assigned manufacturing problems, beginning with the general chemical industries. The specific problems are so chosen as to disclose the fundamental principles underlying the assigned industry, and practice is afforded in the preparation of written reports. Opportunity is given for study of operating efficiency of certain engineering equipment utilized in the fundamental engineering operations of chemical engineering. Weekly inspection trips are taken to plants in and around Columbus for study and report upon equipment and operation. Great emphasis is laid upon methods of attacking problems and upon organization of reports. Certain types of problems with engineering equipment, in factory research and in applied electrochemistry, are required of all students, after which opportunity is given the student to select special problems in various portions of the fields of industrial chemistry and chemical engineering such as absorption systems, filtration, petroleum and sugar technology, intermediates, wood distillation, insecticides, starch, lime, chlorine, and plant fume questions.

707. Engineering Chemistry and Chemical Engineering Laboratory. Three credit hours. Winter Quarter. One conference and eight laboratory hours each week. Prerequisite, Chemical Engineering 706; concurrent, Chemical Engineering 702. Mr. Withrow, Mr. Vilbrandt, Mr. Duncombe, and assistants.

A continuation of Chemical Engineering 706, special emphasis laid upon technical methods of control as applied to industrial chemical processes.

710. Applied Electrochemistry. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, Chemistry 681-682-683 or special permission. Mr. Duncombe.

A survey of the electrochemical industries and a discussion of the principles underlying the application of the electric current in chemical industries.

CHEMISTRY

Office, 115 Chemistry Building

General Chemistry Office, 112 Chemistry Building

PROFESSORS EVANS, McPHERSON, HENDERSON, FOULK, BOORD, AND MACK,
ASSOCIATE PROFESSORS DAY AND FRANCE, ASSISTANT PROFESSORS HOLLINGSWORTH, BRODE, JOHNSTON, MOYER,
AND WOLFROM, MR. FERNELIUS, MR. BACHMAN, AND ASSISTANTS

401. Elementary Chemistry. Five credit hours. One Quarter. Autumn and Winter. One lecture, one recitation, and two three-hour lab-

oratory periods each week. For students who do not present chemistry as an entrance credit. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A general course in the chemistry of the non-metals. To be followed by Chemistry 402.

402. Elementary Chemistry. Five credit hours. One Quarter. Winter and Spring. One lecture, one recitation, and two three-hour laboratory periods each week. For students who do not present chemistry as an entrance credit. Prerequisite, Chemistry 401. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A continuation of the study of the non-metals and a survey of the chemistry of the metals. To be followed by Chemistry 403.

403. Qualitative Analysis. Five credit hours. Spring Quarter. One lecture, one recitation, and two three-hour laboratory periods each week. For students who do not present chemistry as an entrance credit. Prerequisite, Chemistry 402. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A brief course in the systematic detection and separation of the metals and acids.

411. General Chemistry. Five credit hours. One Quarter. Autumn and Winter. One lecture, one recitation, and two three-hour laboratory periods each week. Prerequisite, an acceptable course in high-school chemistry. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A general course in the chemistry of the non-metals, more advanced than Chemistry 401. To be followed by Chemistry 412.

412. General Chemistry. Five credit hours. One Quarter. Winter and Spring. One lecture, one recitation, and two three-hour laboratory periods each week. Prerequisite, Chemistry 411. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A continuation of Chemistry 411, including the chemistry of the metals. To be followed by Chemistry 413.

413. Qualitative Analysis. Five credit hours. Spring Quarter. One lecture, one recitation, and two three-hour laboratory periods each week. Prerequisite, Chemistry 412. Mr. Evans, Mr. Day, Mr. Wolf from, Mr. Fernelius, Mr. Bachman, and assistants.

A general course in qualitative analysis, dealing with the systematic separation and identification of the metals and acids. It also includes the application of the ionization theory, mass action law, and the principles of chemical equilibrium to qualitative analysis.

415. Laboratory Technique. Three credit hours. Winter Quarter. Laboratory work and general discussion. Prerequisite, one year of general chemistry. Mr. Hollingsworth.

Glass blowing, soldering, and the construction of such apparatus as a teacher of chemistry should be able to make.

421-422-423. Quantitative Analysis. Four credit hours. Autumn, Winter, and Spring Quarters. One recitation and nine laboratory hours

each week. Prerequisite, acceptable courses in general chemistry, including qualitative analysis. Mr. Moyer and assistants.

The fundamental course in quantitative analysis. Chemistry 421 and 422 are devoted to gravimetric and volumetric analysis. Chemistry 423 is a continuation of these topics and includes also colorimetric analysis, electrolytic precipitation and electrometric titration.

424. Problems in Quantitative Analysis. One credit hour. Spring Quarter. One quiz each week. Prerequisite, one Quarter of quantitative analysis. Mr. Moyer.

Simple problems in gravimetric and volumetric analysis.

451-452. Organic Chemistry. Five credit hours. Autumn and Winter Quarters. Three lectures, one quiz, and two laboratory periods each week. Pre-medical and pre-dental courses, second year. Prerequisite, one year of general chemistry including qualitative analysis. Mr. McPherson, Mr. Brode, and assistants.

A general introductory course in organic chemistry including laboratory preparations, arranged for students in medicine and dentistry.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

561. Quantitative Analysis. Five credit hours. Spring Quarter. One recitation and twelve laboratory hours each week. Prerequisite, acceptable courses in general chemistry. Mr. Hollingsworth and assistants.

The elementary principles of quantitative analysis arranged for students in the biological sciences or in other non-chemical fields, who desire an introduction to the technique of quantitative chemistry.

562. Organic Chemistry. Five credit hours. Spring Quarter. Three lectures and six laboratory hours each week. Prerequisite, an acceptable course in qualitative analysis. Mr. Brode and assistants.

A general survey of organic chemistry for students in the biological sciences, or in other non-chemical fields of learning.

563. Physical Chemistry. Five credit hours. Spring Quarter. Five lectures or recitations each week. Prerequisite, an acceptable course in organic chemistry. Mr. Mack, Mr. France.

A brief study of the fundamental principles of physical chemistry arranged for students in the biological sciences or in other non-chemical fields, who wish to make a brief survey of physical chemistry.

Not open to students who have credit for Chemistry 460.

647-648. Organic Chemistry. Three credit hours. Autumn and Winter Quarters. Three lectures or recitations each week. Prerequisite, acceptable courses in general and analytical chemistry. Mr. Boord.

The fundamental course in organic chemistry. Chemistry 647 is devoted to a discussion of the aliphatic hydrocarbons and their derivatives and Chemistry 648 to a discussion of the coal tar compounds.

Not open to students who have credit for Chemistry 447-448.

Not available for graduate credit for students majoring in chemistry.

649-650. Organic Chemistry: Laboratory. Three credit hours. Autumn and Winter Quarters. Nine laboratory hours each week. Prerequisite or concurrent, Chemistry 647-648. Mr. Boord and assistants.

The laboratory work naturally belonging with Chemistry 647-648. The preparation of a series of typical organic compounds, their purification, and a study of their properties.

Not open to students who have credit for Chemistry 449-450.

Not available for graduate credit for students majoring in chemistry.

661. Advanced Inorganic Chemistry. Three credit hours. Autumn Quarter. Three lectures or recitations each week. Prerequisite, two years of courses in chemistry. Mr. Henderson.

An advanced course in inorganic chemistry with emphasis upon the fundamental topics of inorganic compounds, their preparation, classifications, and reactions.

662. Advanced Inorganic Chemistry. Three credit hours. Winter Quarter. Three lectures or recitations each week. Prerequisite, two years of courses in chemistry. Mr. Henderson.

An advanced course in inorganic chemistry, stressing the more difficult points in chemical theory in the elementary courses.

668. The Ammonia System of Compounds. Three credit hours. Spring Quarter. Three lectures or recitations each week. Prerequisite, acceptable courses in physical chemistry. Mr. Fernelius.

Liquefied gases as solvents; systems of compounds; inorganic nitrogen compounds, and a consideration of the properties of liquid ammonia solutions, including solutions of metals and intermetallic compounds.

672. Inorganic Preparations. Three credit hours. Spring Quarter. Nine laboratory hours each week. Prerequisite, acceptable courses in general chemistry and quantitative analysis. Mr. Henderson.

Methods employed in the preparation of pure inorganic compounds. The chief classes of such compounds. The laboratory preparation of a number of examples sufficient to develop reasonable technique in applying the methods and to illustrate the classes.

675. The Phase Rule. Three credit hours. Winter Quarter. Three meetings each week. Prerequisite, acceptable courses in physical chemistry. Mr. Henderson.

A study of the phase rule and its applications in chemical research.

681-682-683. Physical Chemistry. Three credit hours. Autumn, Winter, and Spring Quarters. Three lectures each week. Prerequisite or concurrent, acceptable courses in organic chemistry, physics and calculus (two Quarters). Mr. Mack, Mr. Johnston.

The fundamental course in physical chemistry, arranged for students specializing in chemistry.

691-692-693. Physical Chemistry: Laboratory. Two credit hours. Autumn, Winter, and Spring Quarters. Six laboratory hours each week. Prerequisite or concurrent, an acceptable course in physical chemistry. Mr. Mack, Mr. Johnston, and assistants.

An introduction to physicochemical measurements. Any one of these courses may be taken in any Quarter.

697. Electrochemistry: Laboratory. Two credit hours. Autumn Quarter. Six laboratory hours each week. Prerequisite or concurrent, Chemistry 696. Mr. France.

A general laboratory course in theoretical electrochemistry.

698. Colloid Chemistry: Laboratory. Two credit hours. Winter Quarter. Six laboratory hours each week. Prerequisite or concurrent, Chemistry 695. Mr. France.

A general laboratory course in colloid chemistry.

699. Minor Problems in Chemistry. Three to fifteen credit hours. Any Quarter. Conference, library, and laboratory work. Prerequisite, satisfactory courses in the field of the problem undertaken. A student may repeat this course and may spend all or any part of his time on it during a Quarter.

This course is designed to permit any properly qualified person to avail himself of the library and laboratory facilities of the department for carrying out a minor investigation or for adding to his knowledge and technique in some chemical subject.

A student may exercise entire freedom in his choice of instructor to conduct his work in this course, but as a rule, topics in organic chemistry will be under the direction of Mr. McPherson, Mr. Evans, Mr. Boord, Mr. Brode, Mr. Fernelius, Mr. Wolfson, Mr. Bachman; in inorganic chemistry, under Mr. Henderson, Mr. Day and Mr. Fernelius; in physical chemistry, under Mr. Mack, Mr. France, Mr. Day, Mr. Johnston and Mr. Fernelius; and in analytical chemistry, under Mr. Foulk, Mr. Hollingsworth, and Mr. Moyer.

782. Chemical Bibliography. One credit hour. Winter Quarter. One conference each week. Prerequisite, acceptable courses in analytical and organic chemistry. Mr. Henderson.

Designed to train the advanced student in the use of the chemical library, and to instruct him in the character of various chemical journals, dictionaries, reference books, and other sources of information pertaining to chemical subjects.

783. Chemical Biography. One credit hour. Spring Quarter. One lecture each week. Prerequisite, acceptable courses in analytical and organic chemistry. Mr. Henderson.

Designed to familiarize the advanced student with the leading personages in chemistry, particularly those of recent and contemporary times, as well as with the available sources of information relating to such personages.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 756.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" or "900" group except by permission of the Graduate Council.

822. Seminary in Analytical Chemistry.

823. Seminary in Analytical Chemistry.

830. Historical Chemistry.

841. Advanced Organic Chemistry.

842. Advanced Organic Chemistry.

844. Advanced Organic Preparations: Laboratory.

845. Advanced Organic Preparations: Laboratory.

850. Seminary in Organic Chemistry.

851. Seminary in Organic Chemistry.

852. Seminary in Organic Chemistry.

- †854. Seminary in Organic Chemistry.
 861-862-863. Physical Chemistry: Laboratory.
 865. Atomic Structure.
 866. Seminary in Inorganic Chemistry.
 867. Seminary in Inorganic Chemistry.
 881-882-883. Advanced Lectures in Physical Chemistry.
 891. Seminary in Colloid Chemistry.
 892. Seminary in Physical Chemistry.
 950. Chemical Research.

For description of graduate courses in this department see the Bulletin of the Graduate School.

NOTE: For Industrial Chemistry Courses see the Department of Chemical Engineering.

CIVIL ENGINEERING

Office, 108 Brown Hall

PROFESSOR SHERMAN, ASSISTANT PROFESSOR WALL

412. Surveying. Five credit hours. Autumn Quarter. Three recitations and two laboratory periods each week. Landscape Architecture, third year. Prerequisite, Mathematics 422 or equivalent. Mr. Wall.

Use of instruments, land surveying, leveling, profiles, elementary topographic surveying.

CLASSICAL LANGUAGES AND LITERATURE

Office, 217 Derby Hall

PROFESSORS OGLE, HODGMAN, ELDEN, AND BOLLING, ASSISTANT
 PROFESSOR TITCHENER

GREEK

401. Elementary Greek. Five credit hours. Autumn Quarter. Five recitations each week. No prerequisite. Mr. Bolling, Mr. Titchener.

This course covers the outlines of the grammar with practice in the translation of simple selections (The First Year of Greek by J. T. Allen).

402. Elementary Greek. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Greek 401 or its equivalent. Mr. Bolling.

Reading in Xenophon's Anabasis, review and continuation of the grammar.

403. Plato. Five credit hours. Spring Quarter. Four recitations and one lecture each week. Prerequisite, Greek 402. Mr. Bolling.

Reading in the easier dialogues; the personalities of Socrates and Plato and their work.

† Not given during the academic year, 1931-1932.

404. Homer. Five credit hours. Autumn Quarter. Four recitations and one lecture each week. Prerequisite, Greek 402. Mr. Bolling.
Reading in the *Iliad* and *Odyssey*: the epic poetry of Greece.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Reading and Lectures. Three to five credit hours. One Quarter. Winter and Spring. Three to five meetings each week. Prerequisite, Greek 404 or the permission of the instructor. Mr. Bolling, Mr. Titchener.

Study of the language, style, and works of some author or group of authors, chosen to meet the particular needs of the class. The course may consequently be repeated.

*650. Greek Art. Three credit hours. Autumn Quarter. Three lectures each week. No prerequisite. Mr. Bolling.

Description and discussion of the monuments of the prehistoric period—the civilization of Crete and Mycene.

*651. Greek Art. Three credit hours. Winter Quarter. Three lectures each week. No prerequisite. Mr. Bolling.

The history of Greek vase painting.

*652. Greek Art. Three credit hours. Spring Quarter. Three lectures each week. No prerequisite. Mr. Bolling.

The history of Greek sculpture.

NOTE: For Greek 650, 651, and 652 a knowledge of Greek is not required. These courses may be taken in any order, and students below Junior standing may be admitted by special permission.

701. Principles of the Historical Study of Language. Three credit hours. Spring Quarter. Three lectures each week. Mr. Bolling.

The elements of linguistic science together with an outline of the Indo-European family of languages.

720-721-722. Historical Greek and Latin Grammar. Three credit hours each Quarter. Autumn, Winter, and Spring Quarters. Prerequisite, ten credit hours of advanced work in the classics. Mr. Bolling.

NOTE: This course is the same as Latin 720-721-722.

LATIN

401. Elementary Latin. Five credit hours. Autumn Quarter. Five recitations each week. This course is for students who have not studied Latin. Mr. Hodgman, Mr. Titchener.

Grammar and exercises.

402. Elementary Latin and Caesar. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Latin 401. Mr. Titchener.

Continuation of grammar and beginning Caesar.

403. Caesar. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Latin 402. Mr. Titchener.

Continuation of Caesar.

* Not given in 1931-1932.

404. Cicero, Orations. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Latin 401-403 or their equivalent in high school Latin. Mr. Titchener.

Three orations.

405. Vergil. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Latin 401-404 or their equivalent in high school Latin. Mr. Elden.

Readings from the *Aeneid*.

406. Cicero, Horace, Ovid. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Latin 401-405 or three years of high school Latin. Mr. Hodgman, Mr. Ogle.

Cicero, *De Senectute*; Horace, *Odes*; Ovid, *Metamorphoses*.

407. Horace, Livy, Gellius. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Latin 406. Mr. Hodgman, Mr. Ogle.

Horace, *Odes*; Selections from Livy or Gellius.

408. Latin Comedy. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Latin 407. Mr. Hodgman.

Selected plays of Plautus and Terence.

409. Sallust. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Latin 405. Mr. Titchener.

Sallust, *Jugurtha*, or *Catiline*.

Not open to students who have credit for Latin 406-407.

451. Catullus, Pliny, Tacitus. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Latin 407 or 408. Mr. Elden.

Selections from Catullus, Pliny's *Letters*, or Tacitus.

Not open to students who have credit for Latin 601 or 501.

453. Advanced Reading. Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Latin 407 or 408. Mr. Hodgman.

The authors read in this course will be chiefly of the Silver Latin period and will vary from year to year.

Not open to students who have credit for Latin 603 or 503.

454. Advanced Reading. Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, Latin 407 or 408. Mr. Elden.

Selections from Lucretius, Vergil, or Seneca.

Not open to students who have credit for Latin 604 or 504.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

506. Comparative Literature. Three credit hours. Spring Quarter. Three lectures each week. No prerequisite. Mr. Elden.

This consists of lectures on Latin literature and its influence upon the literatures of France, Germany and England. No knowledge of Latin is required, and the course is open to students of both ancient and modern literatures. Students below Junior standing may be admitted by special permission.

Not open to students who have credit for Latin 606.

507. Roman Private Life. Three credit hours. Autumn Quarter. Three lectures each week. No prerequisite. Mr. Elden.

Lectures, illustrated with lantern slides on the daily life and customs of the Romans, their business and family relations, their amusements, dress, homes, and household furniture. A knowledge of Latin is not required for this course, and it is open to all students who are interested in the subject. Students below Junior standing may be admitted by special permission.

Not open to students who have credit for Latin 607.

508. Roman Art and Archaeology. Three credit hours. Winter Quarter. Three lectures each week. No prerequisites. Mr. Elden.

Lectures, illustrated with lantern slides, on the buildings and monuments of the ancient Roman world, with special reference to the city of Rome and its topography; also the architecture and decorative arts of the Romans, temples, palaces, private and public buildings and their construction. A knowledge of Latin is not required for this course. Students below Junior standing may be admitted by special permission.

Not open to students who have credit for Latin 608.

602. Latin Satire. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Latin 408. Mr. Elden.

Selections from the Satires of Horace or Juvenal.

609. Historical Latin Grammar: Inflections. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, Latin 453. Mr. Hodgman.

Sounds and inflections, and other topics essential to the understanding of the principles which govern the development of the Latin language. Latin 609 is deemed essential for those who specialize in Latin in graduate work, and is recommended for advanced undergraduate study.

***610. Roman Religion.** Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, six Quarters of college Latin. Mr. Hodgman.

Lectures on the development of Roman religion, with readings from the *Fasti* of Ovid. This course is valuable as supplementing the courses on the life and literature of the Romans.

611. Roman Public Life. Three credit hours. Winter Quarter. Three meetings each week. Prerequisite, four Quarters of college Latin. Mr. Titchener.

Lectures and readings in Latin authors illustrating the development of Roman governmental institutions, with special attention to their functions and character during the late republic and early empire.

612. Latin Prose Composition: First Course. Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, six Quarters of college Latin. Mr. Hodgman.

Exercises and lectures on Latin idiom and style.

613. Latin Prose Composition: Second Course. Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Latin 612. Mr. Hodgman.

A continuation of Latin 612.

* Not given in 1931-1932.

***614. Latin Prose Composition: Advanced Course.** Three credit hours. One Quarter. Three recitations each week. Prerequisite, Latin 613. Mr. Hodgman.

A study of the more difficult points of Latin idiom and style.

615. Proseminary, I. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, six Quarters of college Latin. Mr. Elden.

Lectures on topics suggested by the study of Caesar and Cicero. Roman writing and Roman writing materials; story of the manuscripts; oratory and the orations; Letters of Cicero. Latin 615 is designed especially for students preparing to teach Latin.

616. Proseminary, II. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, six Quarters of college Latin. Mr. Ogle or Mr. Elden.

Lectures on the life and works of Vergil, and his influence on modern literature. Latin 616 is designed especially for students preparing to teach Latin.

***620. Roman Elegy.** Three credit hours. Autumn Quarter. Prerequisite, one reading course more advanced than Latin 408. Mr. Ogle.

621. Roman Tragedy. Three credit hours. Autumn Quarter. Prerequisite, one reading course more advanced than Latin 408. Mr. Ogle.

622. Roman Epic. Three credit hours. Winter Quarter. Prerequisite, one reading course more advanced than Latin 408. Mr. Ogle.

623. Advanced Reading Course in the Post-Augustan Epic. Three credit hours. Spring Quarter. Prerequisite, one reading course more advanced than Latin 408. Mr. Ogle.

***624. Advanced Reading Course in Tacitus.** Three credit hours. Spring Quarter. Prerequisite, one reading course more advanced than Latin 408. Mr. Titchener or Mr. Ogle.

625. Advanced Prose Composition. Three credit hours. Spring Quarter. Prerequisite, Latin 612, 613 or their equivalent. Mr. Ogle.

626. Paleography. Three credit hours. Autumn Quarter. Prerequisite, six Quarters of college Latin. Mr. Elden.

Study of the different styles of writing. Textual criticism based largely on Latin manuscripts.

627. Vulgar Latin. Three credit hours. Winter Quarter. Prerequisite, six Quarters of college Latin, or French 801, or the consent of the instructor. Mr. Ogle.

The study of texts and inscriptions illustrating the development of the popular speech.

***629. History of Literary Tradition.** Three credit hours. One Quarter. Mr. Ogle.

Lectures and discussions dealing with the genesis and development of literary forms and motifs and their tradition down to the rise of modern literature. The course will be so conducted that students of literature generally will be welcome.

* Not given in 1931-1932.

720-721-722. Historical Greek and Latin Grammar. Three credit hours each Quarter. Autumn, Winter, Spring. Prerequisite, ten credit hours of advanced work in the classics. Mr. Bolling.

NOTE: This course is the same as Greek 720-721-722.

NOTE: TEACHING COURSES. For the Teaching Courses in this department see the Department of Principles of Education, Courses 730 and 731. Course 731 may be counted as part of a major or minor in Latin.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

- *801. Seminary in the Latin Epic.
- *802. Seminary in the Latin Epic (Continued).
- *803. Seminary in the Post-Augustan Epic.
- *804. Seminary in the Latin Lyric.
- *805. Seminary in the Latin Lyric (Continued).
- *806. Seminary in the Latin Satire.
- 807. Seminary in Latin Historiography.
- *808. Seminary in the Latin Drama.
- 809. Seminary in the Latin Philosophical Writers.
- *810. Seminary in Classical Archaeology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

COMPARATIVE LITERATURE AND LANGUAGE

Courses formerly offered under the above heading will be found under the Departments of Classical Languages and Literature, and German.

DRAWING

(See Engineering Drawing)

ECONOMICS

Office, 116 Commerce Building

PROFESSORS WOLFE, HAMMOND, HAYES, WALRADT, HOAGLAND, HELD, DICE, AND MARK, ASSOCIATE PROFESSOR ZORBAUGH, ASSISTANT PROFESSORS E. L. BOWERS, SMART, DEWEY, JAMES, WILLIT, AND PATTON, MR. ROWNTREE, MR. BLANCHARD, MISS STITT, MISS HERBST, MR. WHITSETT, MR. BITTERMANN, AND ASSISTANTS

400. Industrial History. Five credit hours. One Quarter. Autumn, Winter, Spring. Open to Freshmen. Five lecture and discussion hours each week. Mr. Patton and others.

A survey of the development of commerce and industry from the Middle Ages to the present. The course attempts to provide a background for the study of present economic conditions.

* Not given in 1931-1932.

conomic problems and institutions by tracing the evolution of the conditions out of which they have emerged.

401-402. Principles of Economics. Five credit hours. Two Quarters. Both 401 and 402 are given Autumn, Winter, Spring. Not open to Freshmen. Juniors and Seniors see Economics 601-602-603. Mr. Hayes, instructors, and assistants.

A general survey of the economic relationships and processes in modern society, including the organization of our economic system, problems of business administration, prices, money and banking, international trade, public utilities, trade unionism, taxation, wages, interest, rent, profit, socialism, etc.

407. Principles of Economics for Students in Home Economics. Five credit hours. One Quarter. Autumn, Winter, Spring. Not open to Freshmen. Miss Stitt.

A survey of the entire field of economics adapted to the needs of students in home economics. Either this course or 401-402 will meet the requirement in economics for students in Home Economics.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

508. American Economic History. Five credit hours. Spring Quarter. Prerequisite or concurrent, a college course in the principles of economics. Mr. Smart.

A survey of the leading facts in our economic development as a people since the settlement of the Colonies. Emphasis will be placed on the rise of our leading industries and of the problems which they have had to face.

This course is not a substitute for American History and students are urged to take History 403-404 prior to or concurrent with this course.

Not open to students who have credit for Economics 408.

520. Money and Banking. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Commercial Teacher Preparation Curriculum (accounting major), fourth year. Prerequisite, Economics 401-402. Mr. Bowers, Mr. Willit.

This course is a general survey of the field of money and banking. It is intended as an introductory study to the more technical courses in banking and finance and also to give a comprehensive view of the field of money and banking for those not primarily interested in the subjects.

Topics taken up are: coinage; the monetary systems of the United States and foreign countries; the gold exchange standard; credit; price levels; the development of banking; the commercial bank; the savings bank; the trust company; the National Banking system; the Federal Reserve system; the interrelations of our financial institutions; and the relation of the financial structure to the business and industrial system.

Not open to students who have credit for Economics 610.

522. Elementary Economic Statistics. Three credit hours. One Quarter. Autumn, Winter, Spring. Two lectures and one two-hour laboratory period each week. Prerequisite, Economics 401-402 or 403-404, one unit of high school algebra and one unit of high school geometry. Mr. Smart and assistant.

An introductory course in statistical methods, dealing with the collection, presentation, and analysis of economic and business data. This course will place emphasis on table construction, elementary frequency distributions, graphic charts, averages, ratios and percentages. Some discussion of dispersion and index numbers will be included. Designed for students who have a general interest in elementary statistics. A field problem may be included as a part of the laboratory work.

Not open to students who have credit for Economics 422 or 622.

601-602-603. Principles and Problems of Economics. Three credit hours. Autumn, Winter, and Spring Quarters. Open only to Juniors, Seniors, and graduate students. Mr. Hayes.

A general course covering the entire field of economics. The scope of the work is the same as in Economics 401-402, but the lectures, readings, and recitations are adapted to the needs of more mature students.

Not open to students who have credit for Economics 401-402.

607-608. Financial History of the United States. Three credit hours. Autumn and Winter Quarters. Prerequisite, Economics 401-402. Mr. Walradt.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans, and financial administration, currency, legislation, and the development of banking institutions.

624. Principles of Insurance. Three credit hours. Autumn Quarter. Three lecture and discussion periods each week. Prerequisite, Economics 401-402. Mr. E. L. Bowers.

Risk; types of hazards; prevention of loss; fundamentals of insurance contracts; the fire insurance contract; burglary, robbery and theft insurance; other property insurance contracts; life insurance; kinds of policies and uses; special forms of life insurance; accident and health insurance contracts; liability insurance; fidelity and surety bonds; automobile insurance. Type of companies; insurance sales and home office organizations; the problem of loss adjustments; financial aspects of the insurance organizations; state supervision.

631. Public Finance. Three credit hours. Autumn Quarter. Prerequisite, Economics 401-402. Mr. Walradt.

A study of the problems connected with the debts, expenditures, revenues, and fiscal administration of national, state, and municipal governments.

632. Public Finance. Three credit hours. Winter Quarter. Prerequisite, Economics 631. Mr. Walradt.

A continuation of Economics 631.

633. Public Finance. Three credit hours. Spring Quarter. Prerequisite, Economics 632. Mr. Walradt.

A continuation of Economics 632.

636. Industrial Development of Modern Europe. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite or concurrent, a college course in the principles of economics. Mr. Smart.

A survey of the economic changes which have taken place among the advanced industrial nations of Europe since the close of the Seven Years War. Special emphasis is placed on the Industrial Revolution, the growth of the factory system, and the accompanying changes in banking, transportation, labor, and industrial combinations.

Not open to students who have credit for Economics 412 or 512.

637. Industrial Relations. Five credit hours. Autumn Quarter. Prerequisite, Economics 401-402. Miss Herbst.

A study of the origin, evolution, and character of present-day labor conditions and problems. The history, structure, government, philosophy and methods of organized labor and of employers' associations and employee representation in industry. Industrial disputes and modes of settling them; mediation, conciliation, and arbitration. Government intervention and its success at home and abroad.

638. Labor Legislation. Three credit hours. Winter Quarter. Prerequisite, Economics 510 or 637. Miss Stitt.

Efforts on the part of government to improve the condition of the laboring class and to increase the bargaining power of labor. The theory of the legal regulation of labor legislation and court decisions. Child labor and its legal prohibition or restriction. The legal regulation of the employment of women in industry. The problem of low-paid labor and the legal minimum wage. The working day and the legal regulation of hours of labor. Efforts to secure by law safe and sanitary conditions for workers in factories, tenements, mines, and in transportation. The administration of labor laws.

639. Social Insurance. Three credit hours. Spring Quarter. Prerequisite, Economics 638 or 624. Mr. E. L. Bowers.

Recent efforts at home and abroad to guarantee to the worker financial security against the hazards of industry. Accident insurance; employers' liability and workmen's compensation. Industrial health hazards and health insurance. Old age and invalidity insurance or pensions. The problem of unemployment and its prevention. Employment agencies, private and public. The regularization of employment; unemployment insurance. Compulsory automobile insurance.

643. Women in Industry. Four credit hours. Spring Quarter. Four recitations each week. Prerequisite, Economics 401-402. Miss Stitt.

A study of the economic position of women. Social, industrial, and legislative problems created by their entrance into the field of industry. A survey of the occupations open to trained women.

644. The Standard of Living. Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Sociology 401-402, or 403-404, or Economics 401-402. Miss Mark.

A consideration of the content of the various standards of living in American society. Their economic and social significance. Problems in family budgets and retail buying.

645. Principles of Economic Consumption. Three credit hours. Winter Quarter. Prerequisite, Economics 401-402. Miss Zorbaugh.

A survey of economic thought on consumption. Relations of economic consumption to general culture and welfare. Factors conditioning consumption. Survey of some aspects of actual consumption. Specific problems of the progress of economic consumption.

651. International Commercial Policies. Three credit hours. Spring Quarter. Prerequisite, Economics 401-402. Mr. Held.

The theory of international trade; historic policies; mercantilism; free trade and protection. A study of the tariff policy of the United States with a comparative study of the policies of other countries. International trade as affected by the World War.

658-659-660. Population. Two credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, Economics 401-402. Mr. Wolfe.

A general survey of the facts and problems of the growth and distribution of population. The relation of numbers to resources, productive capacity, standard of living, and prosperity. Population in relation to international economic problems. The dynamic aspects of population in relation to material and moral progress. Critical consideration of population theories and policies.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" or "900" groups except by permission of the Graduate Council.

801-802-803. History of Economic Thought.

804-805-806. Economic History of the United States.

- 807-808-809. Statistical Analysis.
- 812-813-814. The Economic History of Western Europe.
815. Costs and Returns.
- 816-817-818. Modern Economic Theories.
- 819-820-821. French and German Economics.
- 822-823-824. Seminary in Economics and Statistics.
863. Advanced Money.
864. Advanced Banking.
- 865-866-867. Public Control of Industry.
- †868. Problems of Capital Accumulation and Utilization.
- †869. Capitalism and Communism in Europe and America.
900. Economic Research.

For description of graduate courses in this department see the Bulletin of the Graduate School.

EDUCATIONAL NURSING (See Public Health and Hygiene)

ENGINEERING DRAWING Office, 218 Brown Hall

PROFESSORS FRENCH, MEIKLEJOHN, AND WILLIAMS, ASSOCIATE PROFESSORS FIELD, RUSS, AND PAFFENBARGER, ASSISTANT PROFESSORS McMANIGAL, COOPER, LUTZENBERGER, AND JONES, MR. BRITTINGHAM, MR. EDMONDSON, MR. OTTER, MR. VIERCK

401. Principles of Engineering Drawing. Four credit hours. One Quarter. Autumn and Winter. One lecture and four two-hour laboratory periods each week. Practical Arts and Vocational Education, and Ceramic Art, first year. All instructors.

Orthographic projection, auxiliary projection, sections, applied geometry, lettering.

402. Principles of Engineering Drawing. Four credit hours. One Quarter. Winter and Spring. One lecture and four two-hour laboratory periods each week. Prerequisite, Engineering Drawing 401. Ceramic Art, first year. All instructors.

Intersections, developments, working drawings, isometric and other pictorial representation, lettering.

403. Descriptive Geometry. Four credit hours. One Quarter. Autumn, Winter, Spring. The Autumn Quarter section is limited to twenty-five students. Four two-hour periods each week for lecture and laboratory. Prerequisite, Engineering Drawing 402. All instructors.

† Not given during the academic year, 1931-1932.

411. Principles of Engineering Drawing. Four credit hours. Autumn Quarter. One lecture and four two-hour laboratory periods each week. Landscape Architecture, first year. Mr. Field, Mr. Brittingham.

421. Engineering Drawing. Three credit hours. Autumn Quarter. One lecture and three two-hour laboratory periods each week. Prerequisite, Engineering Drawing 403. Mr. Russ.

436. The Teaching of Engineering Drawing. Five credit hours. Winter Quarter. One lecture, one quiz, and three three-hour laboratory periods each week. Practical Arts and Vocational Education, first year. Prerequisite, Engineering Drawing 401. Mr. McManigal.

437. Projection Drawing. Two credit hours. Winter Quarter. Six laboratory hours each week. Home Economics, third year. Mr. Field.

438. House Planning. Three credit hours. One Quarter. Autumn and Spring. One lecture and six laboratory hours each week. Home Economics, fourth year. Prerequisite, Engineering Drawing 437. Mr. Field.

NOTE: TEACHING COURSES. For the Teaching Courses in this department see the Department of Principles of Education, Courses 750 and 751.

ENGLISH

Office, 121 Derby Hall

PROFESSORS DENNEY, TAYLOR, McKNIGHT, GRAVES, KETCHAM, BECK, ANDREWS, PERCIVAL, AND WILEY, ASSISTANT PROFESSORS HARBARGER, WALLEY, CRAIG, HATCHER, SNOW, FRIERSON, MILLER, AND WILSON, MRS. BUCK, MR. CHALFANT, MISS DENTON, MR. EDWARDS, MR. EMSLEY, MR. ESTRICH, MR. GRAHAM, MR. HABER, MRS. HITCHCOCK, MR. KANE, MR. KERR, MR. LANDIS, MR. MAURER, MR. NESBITT, MR. NEWDICK, MRS. RHODES, MR. RILEY, MISS ROBINSON, MR. ROSS, MR. SCHAUPP, MISS SCHULZ, MISS SNIFFEN, MR. SNYDER, AND ASSISTANTS

NOTE: Freshmen are restricted to English 401 and 430. Courses designed for the second year are: 405, 442, 450.

(a) Courses in writing should be chosen in the following order: 401, 405, 507, 543, 657, 658.

(b) Courses in literature should be chosen in the following order: 430, 442, 450, 529, 636, 639, 641, 644, 653, 655, 656, 659, 670, 676, 677.

(c) Courses in language should be chosen in the following order: 528, 627, 651, 652, 646.

Some deviations from this order and some omissions are permitted in each group.

401. Composition and Reading. Five credit hours. One Quarter. Autumn, Winter, Spring. Five hours of recitation, quiz, reading and practice each week. Required in all curricula in the College of Education except Landscape Architecture. No prerequisite. Director, Mr. Newdick.

405. Theme Writing. Five credit hours. One Quarter. Autumn, Winter, Spring. Five hours of recitation, quiz, reading, and practice

each week. Prerequisite, English 401 and 430 or 433. Mr. Beck, Mr. Craig, Mr. Wilson.

410. English Composition. Three credit hours. One Quarter. Autumn and Winter. Three hours of quiz, reading, and practice in composition, and six hours of preparation each week. Landscape Architecture, first year. No prerequisite. Director, Miss Harbarger.

Stress is laid upon the mechanics of writing. One long paper during the Quarter—informal exposition. Frequent short papers. Outside reading—a selected biography or autobiography. Personal conferences.

Not open to students who have credit for English 401.

411. English Composition. Three credit hours. One Quarter. Winter and Spring. Three hours of quiz, reading, and practice in composition, and six hours of preparation each week. Landscape Architecture, first year. Prerequisite, English 410. Director, Miss Harbarger.

A continuation of English 410. Emphasis is placed upon the use of the library, and argumentation. One long argument during the Quarter. Frequent short papers. Outside reading—selected short stories. Personal conferences.

Not open to students who have credit for English 401.

412. English Composition. Three credit hours. One Quarter. Autumn and Spring. Three hours of quiz, reading, and practice in composition, and six hours of preparation each week. Landscape Architecture, first year. Prerequisite, English 410 and 411. Director, Miss Harbarger.

A continuation of English 411. Emphasis is placed upon the forms of technical writing. One long technical paper, frequent short papers. Outside reading—selected essays and plays.

Not open to students who have credit for English 405, 407, 607, or 507.

430. An Introduction to Literature. Five credit hours. One Quarter. Autumn, Winter, Spring. No prerequisite. Not open to Juniors or Seniors. Director, Mr. Graves.

Not open to students who have credit for English 433.

442. Nineteenth Century Poetry: Victorian. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, English 401 and 430 or 433. Not open to Freshmen. Mr. Taylor, Mr. Beck, Mr. Percival, Mr. Hatcher.

Reading and criticism of Tennyson, Browning, Fitzgerald, Arnold, Swinburne, Rossetti, Morris, and Meredith.

450. Shakespeare. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, English 401 and 430 or 433. Mr. Denney, Mr. Walley, Mr. Wilson, Mr. Kane.

The following plays will be studied: A Midsummer Night's Dream, Romeo and Juliet, Henry the Fourth, Part I, Twelfth Night, Hamlet, King Lear, The Tempest.

Not open to students who have credit for English 667-668.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

NOTE: Unless otherwise specified, the prerequisite to all English courses in the "600" group is four Quarters in English.

507. Advanced Composition. Five credit hours. Autumn Quarter. Five hours of lecture, quiz, reading, and practice each week. Special permission necessary. Class enrollment limited to thirty. Mr. Graves. Not open to students who have credit for English 407 or 607.

528. English Words. Three credit hours. One Quarter. Autumn and Spring. Prerequisite, English 401. Mr. McKnight.

A consideration of words, their sources, their uses, and the way modern meanings have come to be used.

Not open to students who have credit for English 428.

529. The English Bible. Five credit hours. Spring Quarter. Lectures, quiz, readings. Mr. Hatcher.

Not open to students who have credit for English 429.

543. Literature and Composition. Five credit hours. Spring Quarter. Three lectures with conferences on individual work each week. Special permission necessary. Mr. Snow.

Recent writers, Galworthy, Conrad, Dickinson, Chesterton, Mansfield, James, Wolf, Huxley, Cabell, Anderson, and a few others will be read and discussed as a basis for creative and critical writing. Conferences on individual work.

Not open to students who have credit for English 643.

608. American Literature. Five credit hours. Spring Quarter. Mr. Taylor.

A historical survey by lecture and prescribed reading in the chief writers. One minor research will be required of each student.

627. History of the English Language. Three credit hours. Winter Quarter. Lectures, quiz, and reports. Mr. McKnight.

A brief study of the English language prior to Chaucer, followed by a more detailed study of the later development of the language and the way it became standardized in grammar and vocabulary. Especial attention is paid to the modern period, to the history of pronunciation and spelling and the development of the rules which govern modern English usage.

Not open to students who have credit for English 427.

636. Eighteenth Century Poetry and Prose. Five credit hours. Autumn Quarter. Lectures, quiz, readings. Mr. Percival.

A study of the classical, romantic, realistic and sentimental literature of the eighteenth century. Representative prose, poetry, and drama. Especial attention will be given to a study of the life and times of Dr. Samuel Johnson.

639. The Essay. Five credit hours. Winter Quarter. Lectures, critical study, quiz. Mr. Beck.

The origin and development of the English essay as a literary type.

641. Nineteenth Century Poetry: Romantic. Five credit hours. One Quarter. Autumn, Winter, Spring. Lectures, quiz, readings. Mr. Taylor, Mr. Snow.

Wordsworth, Shelley, Keats, and their contemporaries.

Not open to students who have credit for English 441.

644. Nineteenth Century Prose. Five credit hours. One Quarter. Autumn and Spring. Lectures, quiz, readings. Mr. Newdick.

Reading in Coleridge, Lamb, Landor, DeQuincey, Hazlitt, Carlyle, Arnold, Ruskin, Newman, Pater, Stevenson and in recent and contemporary essayists.

Not open to students who have credit for English 446.

646. Middle English. Three credit hours. Spring Quarter. Pre-requisite, English 651. Mr. Emsley.

Grammar and reading of selected texts.

651. Old English. Three credit hours. Autumn Quarter. Lectures, quiz, readings. Mr. McKnight.

Grammar and reading of selected texts.

652. Old English Poetry. Three credit hours. Winter Quarter. Prerequisite, English 651. Mr. McKnight.

Beowulf and other assigned texts.

653. Chaucer and His Principal Contemporaries and Successors. Five credit hours. Winter Quarter. Lectures, quiz, readings. Class enrollment limited to thirty. Mr. McKnight.

Chaucer's principal works are read. Consideration is also given to Gower, Wycliffe, Langland, the author of Sir Gawayne and the Grene Knight, Occleve, Lydgate, Barbour, James I of Scotland, Dunbar, etc.

654. English Medieval Literature to Chaucer. Five credit hours. Autumn Quarter. Lectures, quiz, readings. Mr. McKnight.

A study of epic poetry in early English, followed by a study of legends, romances, tales, and metrical histories, all done by means of modern English renderings.

655. The Novel: Richardson to Scott. Five credit hours. Autumn Quarter. Lectures, quiz, readings. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen, and Scott.

656. The Novel: Dickens to Meredith. Five credit hours. Winter Quarter. Lectures, quiz, readings. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, Trollope, George Eliot, Meredith, Hardy, James and Conrad.

657. Versification. Five credit hours. Spring Quarter. Lectures, reading, practice. Prerequisite, four Quarters in English including one course in poetry. Open only to Juniors and Seniors. Special permission necessary. Class enrollment limited to thirty. Mr. Graves.

The theory of verse structure with a history of the principal English rhythms, and practice in verse composition.

658. The Short Story. Five credit hours. Winter Quarter. Lectures, quiz, readings. Prerequisite, English 405 or 507. Special permission necessary. Class enrollment limited to thirty. Mr. Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practice in story writing.

659. Milton and Dryden. Five credit hours. One Quarter. Autumn and Spring. Four meetings each week and a fifth meeting at the option of the instructor. Mr. Andrews, Mr. Walley.

Seventeenth century literature with special reference to Milton. The poetry of Milton, Donne, the Cavaliers, the church poets, and Dryden. The prose of Walton and the character books: Browne, Burton, and Bunyan. The Restoration dramatists.

664. The Celtic Renaissance. Five credit hours. Spring Quarter. Four meetings each week and a fifth meeting at the option of the instructor. Class enrollment limited to twenty. Mr. McKnight.

Subjects for study: The Ossianic literature of the eighteenth century, Lady Guest's translation of the Welsh *Mabinogion* and the English literary works inspired by the translation. The modern revival of ancient Irish story and the related modern literature by Yeats, Lady Gregory, Fiona Macleod, Synge, and others.

Not open to students who have credit for English 813.

670. Recent and Contemporary Drama. Five credit hours. Spring Quarter. Four meetings each week with special reading in lieu of the fifth meeting. Prerequisite, English 450 or 667 or 668. Mr. Andrews.

Fifty plays of the following authors will be read: Ibsen, Strindberg, Hauptmann, Wedekind, Kaiser, Chekov, Gorky, Capek, Molnar, Brieux, Claudel, Rostand, Maeterlinck, Wilde, Pinero, Galsworthy, Mayne, Ervine, Shaw, O'Neill, and others.

674. Spenser. Five credit hours. Winter Quarter. Lectures, readings, reports. Mr. Hatcher.

A study of non-dramatic Elizabethan literature. Spenser, the development of the Elizabethan lyric, the sonnet sequences, the translations, the prose of Lyly, Sidney, Lodge, Green, Nash.

675. Play Production. Five credit hours. Winter Quarter. Open to Seniors by special permission. Director, Mr. Miller.

Lectures and readings on the organization of little theatre groups and the staging of plays.

676. Shakespeare and His Contemporaries in English Drama. Five credit hours. Autumn Quarter. Prerequisite, English 450. Mr. Denney.

Not open to students who have credit for English 672.

677. Shakespeare and His Contemporaries in English Drama. Five credit hours. Winter Quarter. Prerequisite, English 676. Mr. Denney.

Not open to students who have credit for English 672.

680. The Influence of the Theater on the Drama. Three credit hours. Spring Quarter. Prerequisite, English 430 and 450. Mr. Miller.

A study of changes in dramatic form as a result of changes in the theater.

705-706-707. Honors Courses. Three to ten credit hours. Autumn, Winter, and Spring Quarters. A program of reading arranged for each student, with individual conferences and reports. Prerequisite: (1) full Senior standing; (2) the record of "A" in at least half of his English courses and an average of "B" in the remainder; (3) the special permission of the professor under whose supervision the work is desired, and the permission of the Department Committee on Honors. The usual credit in this course is three hours, and more will be allowed only to candidates for distinction in English who in their Junior year have passed with high grades a program approved by the Committee on Honors. Director, Mr. Snow.

NOTE: TEACHING COURSES. For the Teaching Courses in this department see the Department of Principles of Education, Courses 714 and 717.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

- †800. Bibliography and Methods of Research in English Literature.
- 801. History of the Short Narrative in English.
- 802. The Lyric.
- 805. Studies in Criticism.
- 806. Problems in Comedy.
- 807. The Novel: End of the Nineteenth Century.
- 808. Poetry: End of the Nineteenth Century.
- 809. The Twentieth Century Realistic Novel: Considered in Relation to its Origins, English and French.
- 810. Studies in Modern English Language.
- 811. Studies in the Period of Chaucer.
- 814. Studies in American Literature.
- 815. Studies in Seventeenth Century Literature.
- *816. Studies in Poetic Rhythm.
- 817. Studies in the Romantic Movement.
- 818. Studies in Eighteenth Century Literature.
- 819-820-821. Discussion of Dissertations.
- 822. Play Writing.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PUBLIC SPEAKING

401. Principles and Practice of Public Speaking. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, English 401. Mr. Ketcham, Mr. Wiley, Mr. Ross, Miss Denton, Mr. Riley.

The principles of public speaking. The methods of securing the attention and maintaining the interest of an audience. Practice in the application of principles and methods to simple expository and argumentative addresses.

402. Debating. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, English 401. Miss Denton, Mr. Wiley.

Practice in making and presenting oral arguments. The theory and practice of argumentation and debate. Short class debates on subjects of current interest.

459. Principles and Practice of Oral Reading. Three credit hours. One Quarter. Autumn and Winter. Three recitation periods each week. Prerequisite for Principles of Education 714, and so required of all stu-

† Not given during the academic year, 1931-1932.

* Not given in 1931-1932.

dents in the College of Education majoring in English and Music. Credit toward professional requirement (See page 47). Mr. Wiley.

Selections of prose and verse read in class by student. Attention paid to voice, action, and interpretation of subject matter. Some drill in phonetics. A course in the fundamentals of delivery. Critical emphasis put on conversational directness, physical energy, intellectual enthusiasm and sincerity.

NOTE: A speech test will determine who shall take and who may be excused from this course. This speech test will be given by the Division of Public Speaking each Spring Quarter. It is necessary that all students who take the speech test shall register for an appointment during the first two weeks of the Spring Quarter. Registration is provided for in Room 121, Derby Hall. Instructions relative to this test may also be obtained at the same office.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Business and Professional Speaking. Three credit hours. Autumn Quarter. Mr. Wiley.

A course designed for practice in informal speaking, as distinctive from public speaking.

Theory and practice of sales and promotion talk, the oral report, instructions and explanations, conducting a meeting, after-dinner speech, etc.

610. Advanced Debate Practice. Five credit hours. One Quarter. Autumn and Winter. Two practice periods and special meetings each week. Special permission necessary. Miss Denton, Mr. Glander.

An advanced course for students who show special ability in debate.

Not open to students who have credit for Public Speaking 410.

614. Extempore Speaking. Five credit hours. Winter Quarter. Prerequisite, ten hours in public speaking. Mr. Wiley.

Practice in gathering and arranging speech material for extemporaneous addresses. Special exercises for developing clearness, concreteness, connotation, unity, and movement in extemporaneous speaking.

Not open to students who have credit for Public Speaking 414.

621. Masters of Public Address. Five credit hours. Winter Quarter. Lectures, readings, and oral reports. Prerequisite, Public Speaking 401-402. Mr. Ross.

Consideration will be given to the life of the speaker, the events leading up to his principal public addresses, his subject matter and its treatment and his influence. The studies will include Demosthenes, Cicero, Burke, Erskine, Gladstone, Henry, Webster, Clay, Calhoun, Lincoln, Beecher, Phillips, Bryan, Wilson, and Lloyd George.

Not open to students who have credit for Public Speaking 421.

625. The Forms of Public Address. Five credit hours. Spring Quarter. Prerequisite, Public Speaking 401-402. Mr. Ketcham.

A study of the methods of the foremost American and English orators. Class discussions. Practice in the use of different forms of public address. Formal orations; inaugurals; nominating speeches; after-dinner speaking; discussions of current events; political, business, and social addresses.

Not open to students who have credit for Public Speaking 525.

651. Special Problems in the Theory of Public Speaking. Five credit hours. Spring Quarter. Prerequisite, ten hours in public speaking. Mr. Ketcham.

The function of the public speaker in reforms, revolutions, and public movements. Criticism and appreciation. Ideals, aesthetic standards in public speaking. Each student is required to make investigations in some special problem and to bring his results before the class for discussion.

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

NOTE: TEACHING COURSES. For the Teaching Courses in this department see the Department of Principles of Education, Course 760.

ENTOMOLOGY

(See Zoology and Entomology)

EUROPEAN HISTORY

(See History)

FINE ARTS

Office, 104 Hayes Hall

PROFESSORS HOPKINS, FANNING, PAYANT, BAGGS, AND LYNCH, ASSOCIATE PROFESSOR ROBINSON, ASSISTANT PROFESSORS FREY, WISER, ATHERTON, KING, AND THOMPSON, MR. RANNELLS, MISS WALKER, MR. MITTS, MR. SHERMAN, MR. GATRELL, AND ASSISTANTS

401-402-403. Freehand Drawing. Two credit hours. Autumn, Winter, and Spring Quarters. Two three-hour laboratory periods each week. Landscape Architecture, first year. Mr. Sherman, Mr. Mitts, Mr. Rannells.

An elementary course in the principles and practice of expression by freehand drawing. Emphasis upon proportion, perspective, and values in monochrome.

Not open to students who have credit for Fine Arts 421 or 423.

404-405. Advanced Freehand Drawing. Two credit hours. Autumn and Winter Quarters. Two three-hour laboratory periods each week, with weekly problems. Landscape Architecture, second year. Prerequisite, Fine Arts 401-402-403. Mr. Sherman, Mr. Mitts.

407. Water Color Painting. Two credit hours. One Quarter, Autumn and Spring. Two three-hour periods each week. Landscape Architecture, second year. Prerequisite, Fine Arts 404-405. Mr. Rannells, Mrs. King.

Painting from still life, models, and landscape with special regard for the technique useful for the architectural rendering. Lectures, laboratory work, and criticisms.

408. Water Color Painting. Three credit hours. One Quarter. Autumn and Spring. Two three-hour periods each week, with weekly

problems. Landscape Architecture, third year. Prerequisite, Fine Arts 407. Mr. Rannells, Mrs. King.

Painting from still life, models, and landscape with special regard for the technique useful for the architectural rendering. Lectures, laboratory work, and criticisms.

411-412. Drawing from Life. Three credit hours. Both 411 and 412 are given Autumn, Winter, and Spring Quarters. Two three-hour periods each week, with outside problems. Landscape Architecture, third year. Prerequisite, Fine Arts 404-405. Mr. Gatrell, Mr. Mitts.

Drawing from the living model with lectures and problems in surface anatomy.

421. Elementary Freehand Drawing. Five credit hours. One Quarter. Autumn, Winter, Spring. Five two-hour laboratory periods each week. Fine Arts, Ceramic Art, and Painting, Sculpture, or Design, first year. Miss Walker, Mr. Rannells, Mr. Mitts, Mr. Gatrell.

A technical course in the principles of drawing, with special regard for directness and facility. Practice in freehand perspective and values in monochrome. Clay modelling.

423. Advanced Freehand Drawing. Five credit hours. One Quarter. Autumn, Winter, Spring. Four three-hour laboratory periods each week, with weekly problems. Fine Arts, and Painting, Sculpture, or Design, first year; Ceramic Art, second year. Prerequisite, Fine Arts 421 or 401-402-403. Mr. Rannells, Mr. Mitts, Mr. Gatrell.

Drawing from still life and the antique as a means of expression, emphasizing the various possibilities and limitations of the black and white mediums, with problems in composition.

424. Drawing from Life. Five credit hours. One Quarter. Autumn, Winter, Spring. Four three-hour periods each week, with weekly problems. Painting, Sculpture, or Design, second year; Ceramic Art, third year; Fine Arts, third or fourth year, alternative with Fine Arts 461. Prerequisite, Fine Arts 423. Mr. Sherman.

Drawing from the living model with lectures and problems in surface anatomy.

425. Advanced Life Drawing. Five credit hours. One Quarter. Autumn, Winter, Spring. Four three-hour periods each week, with weekly problems. Painting, Sculpture, or Design, third year; Fine Arts, third year, alternative with Fine Arts 432. Prerequisite, Fine Arts 424. Mr. Sherman.

Drawing from life with lectures and problems in figure composition.

426. Elements of Art. Five credit hours. One Quarter. Autumn and Winter. Two lectures and three two-hour laboratory periods each week. Home Economics, first year. Open only to Home Economics students in the Colleges of Agriculture and Education. Miss Robinson, Mrs. King, Miss Walker.

Study of the art expression of different peoples. Experiments in design, in line, form, and color. Problems related to the course of study of the Home Economics student.

431. Elementary Design. Five credit hours. One Quarter. Autumn, Winter, Spring. Two lectures and three two-hour laboratory periods each week. Fine Arts, and Painting, Sculpture, or Design, first

year; Ceramic Art and Landscape Architecture, second year. Prerequisite, Fine Arts 423 or equivalent. Mr. Payant, Mr. Atherton.

The principles of pure design, with practice in the presentation of organic design problems. Lectures, conferences, and technical work.

432. Intermediate Design. Five credit hours. One Quarter. Autumn and Winter. Three three-hour periods each week, with outside requirements. Ceramic Art, and Painting, Sculpture, or Design, second year; Fine Arts, third year, alternative with Fine Arts 425. Prerequisite, Fine Arts 431. Mr. Payant, Mr. Atherton.

Special problems in design, theory, and presentation. Ceramic, textile, metallic, stone, wood, and combined materials are considered for decorative and structural elements.

436. Elements of Art: Advanced. Three credit hours. One Quarter. Autumn, Winter, Spring. Three two-hour laboratory periods each week. Home Economics, second year. Prerequisite, Fine Arts 426 or 421 and 431. Miss Walker, Mrs. King.

Fine arts in relation to dress and house problems. Drawings, criticisms, readings and lectures.

441. Water Color Painting. Five credit hours. One Quarter. Autumn and Spring. Four three-hour periods each week, with weekly problems. Ceramic Art, third year; Fine Arts, third year, alternative with Fine Arts 442; Painting, Sculpture, or Design, third year, alternative with Fine Arts 560. Prerequisite, Fine Arts 431. Mrs. King.

Painting from still life, models, and landscape. The purpose of this course is to develop the color sense and ability in the technique of water color painting. Lectures, laboratory work, and criticism.

442. Oil Painting. Five credit hours. One Quarter. Autumn, Winter, Spring. Four three-hour periods each week, with weekly problems. Painting, Sculpture, or Design, second year; Fine Arts, third year, alternative with Fine Arts 441. Prerequisite, Fine Arts 431. Mr. Wiser.

Painting from still life with the object of developing the color sense and acquiring directness of presentation. Problems in the organization and execution of pictures.

451. History of Ancient Art. Five credit hours. Autumn Quarter. Five lectures each week. Fine Arts, Ceramic Art, and Landscape Architecture, second year; Painting, Sculpture, or Design, third year. Not open to Freshmen. Mr. Fanning.

The study of the art of Ancient Egypt, Mesopotamia, Crete, Greece and Rome through the Byzantine and Early Christian Periods. Illustrated lectures, reading, and reports.

452. History of Medieval and Renaissance Art. Five credit hours. Winter Quarter. Five lectures each week. Fine Arts, Ceramic Art, and Landscape Architecture, second year; Painting, Sculpture, or Design, third year. Prerequisite, Fine Arts 451. Not open to Freshmen. Mr. Fanning.

The history of art from the beginning of European development at 1000 A. D. to the end of the sixteenth century.

453. History of Renaissance and Modern Art. Five credit hours. Spring Quarter. Five lectures each week. Fine Arts, Ceramic Art, and Landscape Architecture, second year; Painting, Sculpture, or Design, third year. Prerequisite, Fine Arts 451. Not open to Freshmen. Mr. Fanning.

From the developed Renaissance in Italy to recent times. Illustrated lectures, reading, and reports.

Not open to students who have credit for Fine Arts 454.

456. History of Costume Design. Three credit hours. Spring Quarter. Three periods each week with outside problems. Mrs. King.

A study of the development of costume from the standpoint of design with its social and historical background and its connection with the prevailing interior decoration of each period.

461. Sculpture. Five credit hours. One Quarter. Autumn, Winter, Spring. Five three-hour laboratory periods each week, with weekly problems. Painting, Sculpture, or Design, second year; Ceramic Art, third year; Fine Arts, third or fourth year, alternative with Fine Arts 424. Prerequisite, Fine Arts 421. Mr. Frey.

This course includes the principles of cast making with practice.

476. Appreciation of the Plastic Arts. One credit hour. Autumn Quarter. Painting, Sculpture, or Design, first year. Mr. Fanning.

A series of twelve lectures planned to give the layman an intelligent appreciation of architecture and sculpture.

477. Appreciation of the Pictorial Arts. One credit hour. Winter Quarter. Painting, Sculpture, or Design, first year. Mr. Fanning.

A series of twelve lectures planned to give the layman an intelligent appreciation of painting and pictures.

478. Appreciation of the Popular Arts. One credit hour. Spring Quarter. Painting, Sculpture, or Design, first year. Mr. Fanning and others.

A series of twelve lectures planned to give the layman an intelligent appreciation of the popular art expressions of the day.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

500. Non-Professional Course in Landscape Architecture. Two credit hours. One Quarter. Autumn, Winter, Spring. Two lectures each week. Open to any student in the University not majoring in Landscape Architecture. No prerequisite. Mr. Lynch.

A general presentation of the elementary principles and practices of Landscape Architecture. Illustrated lectures, class discussions, reference reading, and report writing.

509-510. Theory of Landscape Design. Two credit hours. Autumn and Winter Quarters. Lectures and laboratory. Landscape Architecture, first year. Mr. Lynch.

An introductory study of the theories of design as applied to landscape architecture. Illustrated lectures, supplemented by reference readings, reports, and sketches. During the Winter Quarter there will be one laboratory period each week.

511. Elementary Landscape Design. Two credit hours. Spring Quarter. Six hours of laboratory work each week. Landscape Architecture, first year. Prerequisite, Fine Arts 510. Mr. Lynch and assistants.

Practical application of the theories of design to landscape compositions. Original problems in plan and perspective of vital parts of general problems. Laboratory work, supplemented by reading and research.

512-513-514. Elementary Landscape Design. Three credit hours. Autumn, Winter, and Spring Quarters. Nine hours of laboratory work each week. Landscape Architecture, second year. Prerequisite, Fine Arts 511. Mr. Lynch and assistant.

A series of elementary design problems in plan and perspective with special emphasis on the planning of private properties used for residential purposes. Laboratory work supplemented by research.

515-516-517. Intermediate Landscape Design. Five credit hours. Autumn, Winter, and Spring Quarters. Fifteen hours of laboratory work each week. Landscape Architecture, third year. Prerequisite, Fine Arts 514. Mr. Lynch and assistant.

An intermediate course in design, involving more complex problems, such as large private estates, land subdivisions, parks and other public areas.

518-519-520. Advanced Landscape Design. Eight credit hours. Autumn, Winter, and Spring Quarters. Twenty hours of laboratory work and four hours of preparation each week. Landscape Architecture, fourth year. Prerequisite, Fine Arts 517. Mr. Lynch and assistant.

Advanced courses in design involving more complicated problems. The laboratory work is to be supplemented by research and special problems.

Not open to students who have credit for the work of this course taken as Technical Problems, Fine Arts 465-466-467 and 661-662-663.

521-522-523. Plant Materials. Two credit hours. Autumn, Winter, and Spring Quarters. Lecture and laboratory period each week. Landscape Architecture, second year. Prerequisite, Botany 401. Mr. Thompson.

A study of plants native to this and other sections of the United States. Particular emphasis given to the study of the habits and characteristics of woody plants with reference to their use in landscape compositions.

524-525-526. Plant Materials. Two credit hours. Autumn, Winter, and Spring Quarters. Lecture and laboratory period each week. Landscape Architecture, third year. Prerequisite, Fine Arts 523. Mr. Thompson.

A continuation of the work given in Fine Arts 521-522-523, with greater emphasis placed upon the study of plants with relation to design.

530. History of Landscape Architecture. Three credit hours. Autumn Quarter. Three lectures each week. Landscape Architecture, third year. Prerequisite, Fine Arts 453 or Architecture 546. Mr. Fanning, Mr. Lynch.

A technical study of the historic examples of landscape design. Illustrated lectures, collateral reading, reports and sketches.

533. Commercial Design. Five credit hours. Winter Quarter. Three three-hour periods each week, with weekly problems. Prerequisite, Fine Arts 432 and 425. Mr. Atherton.

A general course serving as an introduction to the various phases of the commercial art field—advertising layout; methods of agencies, newspapers, etc.; engraving processes; making drawings for reproduction; principles of lettering; the use of various mediums including pen, crayon, brush, wash drawings, and color.

Not open to students who have credit for Fine Arts 433.

534. Thesis Design. Five credit hours. One Quarter. Autumn, Winter, Spring. Ceramic Art, third year; Painting, Sculpture, or Design, third year, alternative with Fine Arts 562. Mr. Payant, Mr. Atherton.

Individual attention to the solution of problems requiring a specialized study in one of the various fields of design.

Not open to students who have credit for Fine Arts 434.

535. Illustrative Drawing. Five credit hours. One Quarter. Autumn and Spring. Prerequisite, Fine Arts 425 and 441 or 442. Mr. Rannells.

Practice in illustrative drawing with study of the technique of pen and ink, pencil, wash, and other mediums. Problems in pictorial composition.

Not open to students who have credit for Fine Arts 435.

541-542-543. Planting Design. Three credit hours. Autumn, Winter, and Spring Quarters. Eight hours of laboratory work each week. Landscape Architecture, fourth year. Prerequisite, Fine Arts 517. Mr. Thompson.

Courses in design which will involve plants as the principal elements. The laboratory work will be supplemented by occasional lectures and field trips.

544. Advanced Water Color Painting. Five credit hours. One Quarter. Autumn and Spring. Four three-hour periods each week, with weekly problems. Painting, Sculpture, or Design, third year, alternative with Fine Arts 545; Fine Arts, fourth year, alternative with Fine Arts 560. Prerequisite, Fine Arts 441. Mrs. King.

A continuation of Fine Arts 441, with advanced problems in picture making.

Not open to students who have credit for Fine Arts 444.

545-546-547. Portrait Painting. Five credit hours. Autumn, Winter, and Spring Quarters. Five three-hour periods each week. Prerequisite, Fine Arts 535 and 442. Mr. Hopkins, Mr. Wiser.

Painting from life. The organization and development of pictures with special reference to the delineation of character.

550. Stage Design. Five credit hours. Spring Quarter. Prerequisite, Fine Arts 432. Mr. Sherman.

A course in advanced technical problems dealing with the design and execution of stage sets, costumes, lighting, etc., for theatrical productions, pageants, and fetes. The work combines theory and practice.

551-552-553. Landscape Construction. Five credit hours. Autumn, Winter, and Spring Quarters. Fifteen hours of laboratory work each

week. Landscape Architecture, fourth year. Prerequisite, Fine Arts 517. Mr. Thompson.

Problems requiring construction drawings for changing ground forms, for drainage and for roads, walls, fences and minor architectural features. Occasional lectures will supplement the drafting room work.

560. Advanced Oil Painting. Five credit hours. One Quarter. Autumn, Winter, Spring. Four three-hour periods each week with weekly problems. Painting, Sculpture, or Design, third year, alternative with Fine Arts 441; Fine Arts, fourth year, alternative with Fine Arts 544. Prerequisite, Fine Arts 442. Mr. Wiser.

Painting in oil from still life and the costume model. Advanced problems in picture making.

Not open to students who have credit for Fine Arts 443.

562. Advanced Sculpture. Five credit hours. One Quarter. Autumn, Winter, Spring. Five three-hour laboratory periods each week, with weekly problems. Ceramic Art, third year; Painting, Sculpture, or Design, third year, alternative with Fine Arts 534. Prerequisite, Fine Arts 461. Mr. Frey.

Not open to students who have credit for Fine Arts 462.

565-566-567. Technical Problems. Three to five credit hours. Autumn, Winter, and Spring Quarters. Ceramic Art, third year. Painting Sculpture, or Design, fourth year. Mr. Hopkins, Mr. Payant, Mr. Fanning, Mr. Lynch, Mr. Wiser, Mr. Rannels.

This course is open, by permission of the department, to students who show particular ability in design, drawing, painting or sculpture, and who, having completed the other technical courses offered in the department, wish to pursue advanced problems in these fields under the supervision of the department. Students majoring in Landscape Architecture take special problems in planting design under these courses.

Not open to students who have credit for Fine Arts 465-466-467.

569. Art Structure in Elementary Teaching. Five credit hours. Autumn Quarter. Lectures and laboratory. Five periods each week with outside problems. Mrs. King.

Principles and application of art in elementary education. The development of creative ability as an adjunct to the learning process and its relation to specific subjects. This course is planned for students taking the curriculum in Elementary Education and is prerequisite to Fine Arts 570, Art Problems for Elementary Teachers.

570. Art Problems for Elementary Teachers. Five credit hours. Winter Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite, Fine Arts 569. Mrs. King.

A study of the nature of art expression with laboratory experiments in design and freehand drawing. This course is open only to students who intend to be teachers in the elementary schools. Special stress will be laid on the use of the blackboard in freehand drawing and on problems in design.

Not open to students who have credit for Fine Arts 470.

571. The Theory and Practice of Teaching Art. Five credit hours. Winter Quarter. Five periods each week with outside assignments. Fine Arts, fourth year. Prerequisite, Fine Arts 421 and 431. This course is

prerequisite to Principles of Education 440 for all students majoring in Fine Arts. Miss Robinson.

A study of general and special methods. Observation and criticism of high school teaching.

Not open to students who have credit for Fine Arts 471.

580. Ceramic Products. Five credit hours. Autumn Quarter. Ceramic Art, third year. Prerequisite, Fine Arts 431 and Ceramic Engineering 405. Mr. Baggs.

A study of products of clay, glass, and glass enamel, stressing design, finish, and quality in relation to service specifications. Industrial processes are described with special reference to methods and equipment of the artist.

Not open to students who have credit for Fine Arts 480.

581. Ceramic Composition and Decorative Processes. Five credit hours. Winter Quarter. Lectures and laboratory. Ceramic Art, third year. Prerequisite, Fine Arts 580. Mr. Atherton.

A review of the material mixtures and of the decorative processes employed and an historical classification of ceramic design.

Not open to students who have credit for Fine Arts 481.

582. Ceramic Shape Designing. Five credit hours. Spring Quarter. Ceramic Art, third year. Prerequisite, Fine Arts 581. Mr. Baggs.

A laboratory course in modelling, making of molds, and production of ware to acquaint students with the essential principles.

Not open to students who have credit for Fine Arts 482.

583. Ceramic Decorating. Five credit hours. Spring Quarter. Ceramic Art, third year. Prerequisite, Fine Arts 582. Mr. Baggs, Mr. Atherton.

A laboratory course in designing and decorating clay wares by incising and relief treatment, slip painting and *pate-sur-pate*.

Not open to students who have credit for Fine Arts 483.

584. Ceramic Decorating. Five credit hours. Autumn Quarter. Ceramic Art, fourth year. Prerequisite, Fine Arts 583. Mr. Baggs, Mr. Atherton.

A laboratory course in color decoration by slips, vapors, salts, and glazes; on bisque, under-glaze and over-glaze; with hand and air brushes; by transfers and templates; with lusters, etching, etc., on clay and glass.

Not open to students who have credit for Fine Arts 484.

585. Ceramic Decorating. Five credit hours. Winter Quarter. Ceramic Art, fourth year. Prerequisite, Fine Arts 584. Mr. Baggs, Mr. Atherton.

A laboratory course in polychrome decorative designs applied by transfer from stone and steel, also architectural floor and wall polychrome designs.

Not open to students who have credit for Fine Arts 485.

586. Ceramic Ensemble Designing. Five credit hours. Spring Quarter. Ceramic Art, fourth year. Prerequisite, Fine Arts 585. Mr. Baggs.

A laboratory course in the designing of shapes, and the decoration of sets of tiles and art wares for exterior panel decorations and interior furnishing.

Not open to students who have credit for Fine Arts 486.

654. History of Renaissance Art. Five credit hours. Spring Quarter. Five lectures each week. Prerequisite, Fine Arts 453. Mr. Fanning. The development of European art from the fifteenth to the nineteenth century. Illustrated lectures, reading, and reports.

***656. History of Oriental Art.** Five credit hours. Winter Quarter. Five lectures each week. Mr. Fanning.

The study of Asiatic culture expressed by the historical development of architecture, sculpture and painting in Persia, India, China, and Japan. Illustrated lectures, reading, and reports.

657-658-659. Proseminary. Five credit hours. Autumn, Winter, and Spring Quarters. Ceramic Art, and Painting, Sculpture, or Design, fourth year. Prerequisite, Fine Arts 451, 452, 453. Mr. Fanning, Miss Robinson.

Specialized study in important European Art periods. Ancient art subjects in Autumn; medieval in Winter; modern in Spring. Lectures, roundtable discussions, and presentation by each student of some special phase of research.

661-662-663. Advanced Technical Problems. Three to five credit hours. Autumn, Winter, and Spring Quarters. Ceramic Art, fourth year. Mr. Hopkins, Mr. Fanning, Mr. Payant, Mr. Frey, Mr. Lynch, Mr. Wiser, Mr. Rannells.

This course is open, by permission of the department, to students who have shown particular ability in design, drawing, painting, or sculpture and who wish to pursue advanced problems in these fields under the supervision of the department. Students in Landscape Architecture pursue special work in design and construction under these courses.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Major Problems.

For description of graduate course in this department see the Bulletin of the Graduate School.

FRENCH

(See Romance Languages and Literatures)

GEOGRAPHY

Office, 213 Commerce Building

PROFESSORS HUNTINGTON, VAN CLEEF, PEATTIE, AND CARLSON, ASSISTANT PROFESSOR SMITH, MR. VARVEL, MR. WRIGHT, MR. BURHANS, AND ASSISTANTS

401. Principles of Geography. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Juniors and Seniors see Geography 501. Mr. Carlson, instructors, and assistants.

The geographic factors in environment: location, climate, land forms, soils, minerals, water, natural vegetation, animals, man, and the works of man; their distribution and characteristics in relation to society. The use and interpretation of maps.

Not open to students who have credit for Geography 402.

* Not given in 1931-1932.

403. Economic Geography. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, Geography 401. Mr. Van Cleef, Mr. Smith, and instructors.

A survey of the distribution of the natural resources and the industries based upon them. Geographic factors affecting the economic and commercial activities of man. Comparisons and contrasts, with special reference to the United States, of the economic activities of the nations in the light of their geographic conditions.

411. Climatology. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Geography 401 or Geology 420. Mr. Smith.

A study of the elements of climate, particularly their geographic distribution. The controls of climate. Types of climate and their distribution, concluded by a consideration of the recent thought on the subject of climatic regions.

421. Cartography. Two credit hours. Spring Quarter. Two two-hour laboratory periods each week. Prerequisite, Sophomore standing or permission of the instructor. Mr. Smith.

The elements of map-making. Construction of the common map projections. The interpretation and appreciation of maps. The representation of geographic data by the use of dots, isopleths, cartograms and other graphic devices.

422. Historical Geography and Commerce of the United States. Three credit hours. One Quarter. Autumn, Winter, Spring. Three recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), third year. Prerequisite, Geography 401. Mr. Huntington.

Geographic influences in the history of the United States. Location, topography, climate, and natural resources as factors in the distribution of population, the selection of occupations and the location of industries and trade routes. The development of the internal commerce of the United States, and the basis of her foreign trade.

Not open to students who have credit for Geography 601.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Principles of Geography—for Upperclassmen. Three credit hours. One Quarter. Autumn, Winter, Spring. Three recitations or lectures each week. Mr. Peattie.

A course in geographic principles serving as a general introduction to the field of geography. The course is designed as well to stand as a survey unit and lays particular emphasis upon the interrelations of geography and history.

Not open to Freshmen, Sophomores, or students who have credit for Geography 401 or 402. It may be used by upperclassmen as a prerequisite where 401 is required.

603. The Localization of Manufacturing Industries of the United States. Four credit hours. Spring Quarter. Four recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), fourth year. Prerequisite, Economics 401-402. Mr. Wright.

Geographic influences on American manufacturing. The distribution of the industry of the United States. The relation of land and population to the growth and variety of manufactures. Factors affecting the localization of particular industries. The development of centers of general industry. Industrial districts. Classification and analysis

of the manufacturing business of the United States as a whole, and special study of representative industries, as to labor, supply, sources, quantity, and value of material and power used, transportation facilities available, quantity and value of products, and problems of competition and markets. A term report will be required of each student.

604. Conservation of Natural Resources. Two credit hours. Autumn Quarter. Two recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), fourth year. Prerequisite, Geography 401 and Economics 402. Mr. Huntington.

The importance of the fundamental natural resources: agricultural, forest, mineral, and water. The exploitation of soils, forest, mines, etc., and the movement for their conservation. The reclamation of arid and swamp land, reduction of erosion, development of forestry, elimination of waste in mining, improvement of waterways, use of water power, and problems of water supply.

605. Economic and Social Geography of Ohio. Two credit hours. Winter Quarter. Two recitations each week. Prerequisite, Geography 403 and Economics 402 or Sociology 402. Mr. Huntington.

Geographic influences in the history of the state. A study of its agriculture, industries, and social conditions, together with the underlying physical, climatic, and other environmental factors that have contributed to the present development of the region.

606. Land Utilization. Two credit hours. Spring Quarter. Commercial Teacher Preparation Curriculum (commercial geography major), fourth year. Prerequisite, Geography 403 and Economics 402. Mr. Huntington.

Land as a natural resource. Its importance and classification. A discussion of agricultural, forest, mineral, and urban lands. Character and location as factors in utilization and value. The relation of classification to land policies and conservation policies. City planning, zoning, and suburban development.

621. Geography of Europe. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Geography 403 and Economics 402 or Sociology 402. Mr. Van Cleef.

A consideration of the major geographic problems of the continent. A study of the economic, social, and political progress of the nations as affected by their geographic conditions.

623. Geography of South America. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Geography 403. Mr. Carlson.

A study of South America by countries. Location, topography, climate, and natural resources, influencing economic, social, and political development. The commercial relations of South America, with particular reference to the United States.

624. Geography of the Caribbean Region. Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, Geography 403. Mr. Carlson.

The geography of the regions between the United States and South America. Their resources, industries, and products. The economic and social development of their people and the nature and relations of their trade, particularly with the United States.

625. Geography of the Far East. Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Geography 403. Mr. Varvel.

The geographical aspects of the economic and political problems of the Pacific Ocean. The ratio of land to population in the islands and lands adjacent to this ocean and the

resultant economic, social, and political consequences. Their undeveloped resources and the opportunity for the investment of American capital. The present and prospective commercial relations of the United States with Asia and the East Indies.

631. The Geography and History of Commerce. Three credit hours. One Quarter. Autumn and Spring. Three recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), third year. Prerequisite, Geography 401 or 501, or four Quarters in History. Mr. Peattie.

A study of the basis and development of commerce from the earliest times to the present. The successive leadership among the nations and the contributing factors. Geographic influences in present-day national commercial policies and in modern business.

632. World Industries and Commerce. Three credit hours. Autumn Quarter. Three recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), third year. Prerequisite, Geography 403, or Geology 401, or Geology 430. Mr. Wright.

A survey of the world's important agricultural and manufacturing industries and the geographic factors influencing their location and development. Mineral resources and industries.

The exchange of commodities; the direction of movement; and the balance of trade. The relation of trade balances to industrial development. Essential raw materials in national and international affairs. The possible world's markets for the American merchant.

634. Trade Centers and Trade Routes. Three credit hours. One Quarter. Winter and Spring. Three recitations each week. Commercial Teacher Preparation Curriculum (commercial geography major), fourth year. Prerequisite, Geography 403 and Senior standing. Mr. Van Cleef.

The world's principal ports, inland trade centers, and trade routes are considered in the light of both domestic and foreign trade development. A study of geographic factors in the establishment and growth of trade centers. The reciprocal relations in the development of the hinterland and trade centers.

The world's great trade routes, including land as well as water routes and their effect upon the shifting of trade centers. The significance of inland waterways in trade. The influence of the automobile, airplane, and airship upon routes. The work of a port. Planning for its future.

The part played by postal, telegraph, cable, wireless, and radio communication in the world's trade. Coaling stations, their location, strategic and economic importance.

641. Field Work in Geography and Commerce. One to three credit hours. One Quarter. Autumn and Spring. Assigned readings, conferences, and reports. Commercial Teacher Preparation Curriculum (commercial geography major), fourth year. Prerequisite, eighteen hours of geography, Senior standing, and consent of the instructor. Graduate students should take "800" courses. Not more than six hours credit to be derived from Geography 641 and 642. But three hours credit from these courses will be given in a single Quarter. Mr. Huntington, Mr. Van Cleef, Mr. Peattie, Mr. Carlson, Mr. Smith.

Special investigations in the field of applied geography. Each student will be required to write up the results of his work in the form of maps, diagrams, and a final typewritten report.

642. Special Problems in Geography and Commerce. Three credit hours. One Quarter. Autumn, Winter, Spring. Assigned readings, conferences, and reports. Prerequisite, eighteen hours of geography,

Senior standing, and consent of instructor. Graduate students should take "800" courses. Not more than six hours credit may be derived from Geography 641 and 642. But three hours credit from these courses will be given in a single Quarter.

(a) Problems in Physical Geography. Mr. Peattie, Mr. Carlson.

(b) Problems in Climatology. Mr. Smith, Mr. Peattie.

(c) Problems in Political and Historical Geography. Mr. Huntington, Mr. Peattie.

(d) Problems in Economic and Commercial Geography. Mr. Huntington, Mr. Van Cleef, Mr. Carlson.

651. Anthropogeography. Four credit hours. Winter Quarter. Prerequisite, Geography 401 or 501. Three recitations and a conference each week. Mr. Peattie.

A course founded upon the classical "Influences of Geographic Environment" by Semple. The geographic factors in history. Classes of geographic factors. Society and the state in relation to land. Geographical location. Geographical area. The significance of types of environment.

661. Geographic Factors in Civilization. Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, sixteen hours of geography or Geography 401 and advanced standing in history or sociology. Mr. Peattie.

A study of the principles of historical geography. The story of geographic influences in social and cultural developments. Designed for advanced students of geography, history, and sociology.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Research in Geography and Commerce.

805-806-807. Departmental Seminary in Geography and Commerce.

808-809-810. Research in the Geography of Conservation and Land Utilization.

811. History of Geography.

815-816-817. Problems in the Geography of Foreign Commerce.

821-822-823. Problems in Industrial and Agricultural Geography.

831-832-833. Research in Physical Geography.

841. Seminary in Geography.

843. Seminary in Geography.

For description of graduate courses in this department see the Bulletin of the Graduate School.

GEOLOGY

Office, 103, 104 Orton Hall

PROFESSOR CARMAN, ASSOCIATE PROFESSOR SPIEKER, ASSISTANT PROFESSORS GRAHAM, STEWART, AND STOCKDALE, MR. STOUT, MR. GLOCK, MR. BERRY, MR. HOLMBERG

Seniors who desire to elect geology may take Geology 501, 502, and 503 instead of Geology 401 and 402.

401. General Geology. Five credit hours. One Quarter. Autumn, Winter, Spring. Four recitations and one one-hour laboratory period

each week. Saturday mornings (except in the Winter Quarter) must be kept open for field trips. With 402, this constitutes the first course in geology. All instructors.

A study of the surface features of the earth and their origin; of the structural features of the earth's crust and how they were formed. In the laboratory, topographic maps and the common minerals and rocks are studied.

402. General Geology. Five credit hours. One Quarter. Autumn, Winter, Spring. Four recitations and one one-hour laboratory period each week. Saturday mornings (except in the Winter Quarter) must be kept open for field trips, unless credit for field trips was received in Geology 401. Prerequisite, Geology 401. All instructors.

An elementary study of the geologic history of the earth. In the laboratory, the common types of fossils and geological maps are studied.

404. Glacial Geology. Five credit hours. Spring Quarter. Four recitations and one two-hour laboratory period each week. Saturdays must be kept open for field trips. Prerequisite, Geology 401-402. Mr. Glock.

A study of the glacial geology of North America, especially of Ohio, by lectures, assigned readings with reports, map work, and field trips. The course emphasizes individual library study and reports.

411. The Geology of our Mineral Wealth. Five credit hours. Autumn Quarter. Five recitations or lectures each week. Prerequisite, Geology 401-402. Mr. Graham.

An elementary study of the characteristics, occurrences, and uses of the important mineral deposits.

412. Geologic Life Development. Five credit hours. One Quarter. Winter and Spring. Lectures, assigned readings, recitations. Prerequisite, Geology 401-402. Mr. Spieker.

The development of life on the earth as demonstrated by the history of selected groups of animals, particularly of the higher vertebrates. Attention is centered on the interpretation of the geologic evidence for the evolution of the groups discussed.

420. Meteorology. Five credit hours. Spring Quarter. Four recitations and one one-hour laboratory period each week. No prerequisite. Mr. Stockdale.

A study of the elements of weather and weather forecasting. Special attention is given to the weather of Ohio.

430. Agricultural Geology. Five credit hours. One Quarter. Autumn and Spring. Four recitations and one two-hour laboratory period each week. Saturday mornings must be kept open for field trips. Landscape Architecture, second year. Mr. Holmberg, Mr. Berry.

The principles of geology from the standpoint of their application to agriculture; the common rock-forming minerals, and the common rocks will be studied in the laboratory; various geological processes and their results will be observed in the field.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Advanced General Geology: Physiography. Five credit hours. Autumn Quarter. Four recitations and one two-hour laboratory

period each week. Saturday mornings must be kept open for field trips. Prerequisite, Geology 401-402, or Senior rank. Mr. Glock.

A detailed study of the processes at work on the land surface and the topographic forms produced by them.

Not open to students who have credit for Geology 415.

502. Advanced General Geology: Structural and Dynamic. Five credit hours. Winter Quarter. Four recitations and one two-hour laboratory period each week. Prerequisite, Geology 401-402, or Senior rank and Geology 501 or 415. Mr. Spieker.

A detailed study of the structural features of the earth's crust and of the forces which have produced these structures. This course includes much practice in the interpretation of geological maps.

Not open to students who have credit for Geology 406.

503. Advanced General Geology: Historical. Five credit hours. Spring Quarter. Four recitations and one two-hour laboratory period each week. Saturday mornings must be kept open for field trips. Prerequisite, Geology 401-402 and 502 or 406, or Senior rank and Geology 502 or 406. Mr. Carman.

A study of the geological history of North America, its physical history, and life development. The course deals with the classification and distribution of the geological formations, especially those of Ohio, and with the characteristic fossils of each system.

Not open to students who have credit for Geology 407.

608. Stratigraphic Geology of Ohio. Five credit hours. Autumn Quarter. Prerequisite, four Quarters of geology, or of geology and mineralogy, and consent of the instructor. Mr. Carman.

Field trips with reports, lectures, and assigned readings. Field trips on Saturdays (entire day) while the weather permits.

The geological formations of Ohio are studied in the field by rock specimens and by assigned readings. This course is intended to acquaint the student with the rock formations of Ohio.

***610. Physiography of the United States.** Five credit hours. Winter Quarter. Four recitations and one two-hour laboratory period each week. Prerequisite, four Quarters of geology, or of geology and geography, including Geology 501 or 415. Mr. Glock.

A study of the physiographic regions of the United States. The topographic form and physiographic history with the geologic history as a background. Designed to give the student of geology or geography a working knowledge of the physiography of the United States.

612. Special Problems. Three to five credit hours. Autumn, Winter, and Spring Quarters. Assigned readings, conferences, and reports. Prerequisite, four Quarters in geology and consent of the chairman of the department.

A study of special topics by conferences and reports.

620. Introductory Paleontology. Three credit hours. Autumn Quarter. Two recitations and one two-hour laboratory period each week. Prerequisite, four Quarters of geology, or of geology and zoology. Mr. Carman, Miss Stewart.

A study of the systematic classification of the animal kingdom as a means of becoming acquainted with the faunas that characterize the various geological formations.

* Not given in 1931-1932.

The course deals mainly with the generic characters of the fossil invertebrates and their use in identifying and correlating geological formations.

621. Introductory Paleontology. Three credit hours. Winter Quarter. Mr. Carman, Miss Stewart.

A continuation of Geology 620.

622. Introductory Paleontology. Three credit hours. Spring Quarter. Mr. Carman, Miss Stewart.

A continuation of Geology 621 but this course deals largely with the fossil vertebrates.

†627. Field Geology. Eight credit hours. Prerequisite, Geology 501-502-503, or equivalent and permission of the instructor. Limited to men. Mr. Carman, Mr. Spieker, Mr. Graham, or Mr. Stockdale.

This course offers training in the standard methods of geologic field work. It is conducted from a field camp and employs the entire time of the students. The field chosen for 1931 is the Appalachian region of eastern Tennessee, which offers considerable variety of physiographic, stratigraphic, structural and economic geology. The course begins about June 15 and continues about five weeks, after which a report will be prepared by each student.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

***801. Advanced Historical Geology.**

***802. Advanced Historical Geology.**

***803. Advanced Historical Geology.**

804. Research.

810. Geology of the Eastern United States.

811. Geology of the Western United States.

815. Seminary in Metamorphic Geology.

816. Seminary in Structural Geology.

817. Seminary in Earth Tectonics.

For description of graduate courses in this department see the Bulletin of the Graduate School.

GERMAN

Offices, 210, 211, 212, 213, 318, 319 Derby Hall

PROFESSORS M. B. EVANS, EISENLOHR, KURATH, AND MAHR, **ASSISTANT PROFESSORS** THOMAS (EMERITUS) AND ROESLER, MR. PHILIPPSON, MR. GAUSEWITZ, MR. GOTTLIEB, MISS SCHNECK, AND **ASSISTANTS**

401. Elementary German. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. All instructors.

The elements of German grammar. Reading of easy prose. Oral practice.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

402. Elementary German. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, German 401 or equivalent. All instructors.

The elements of German grammar. Reading of easy prose. Oral practice.

403. Intermediate German. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, German 402 or equivalent. All instructors.

Reading of narrative prose. Oral and written practice.

404. Easy Classical Reading. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, German 403 or equivalent. All instructors.

Reading of (a) descriptive and critical prose; (b) a classical drama supplemented by discussions and lectures; (c) selected lyrics.

406. Science Reading. Five credit hours. One Quarter. Autumn and Spring. Five recitations each week. Prerequisite, German 403 or equivalent. Mr. Eisenlohr.

Rapid reading of technical literature. This is preceded or accompanied by practice in word formation, word compounds, sentence structure. The object of the course is to give the student a reading knowledge of technical German.

407. Elementary Composition. Two credit hours. One Quarter. Autumn and Winter. Two recitations each week. Prerequisite, German 403 or equivalent. This course is open only to students in German 404 or in any of the more advanced reading courses of the "400" group. It should normally be taken with the first course elected in "Advanced German" (German 410 to 450). It is required of students taking German as a major or minor subject. Mr. Kurath, Mr. Gausewitz.

A systematic review of German grammar with special emphasis upon the more unusual grammatical forms and constructions. Practice in writing and speaking German.

408. Elementary Composition (Continued). Two credit hours. One Quarter. Autumn, Winter, Spring. Two recitations each week. Prerequisite, German 407 or registration in a "600" course. This course may be taken in conjunction with any of the groups of "Advanced German" (German 410 to 450). It is required of students taking German as a major or minor subject. Mr. Kurath, Mr. Gausewitz.

A study of German syntax with practice in writing and speaking German.

Advanced German. Three credit hours a Quarter. Autumn, Winter, Spring. Three recitations each week. Prerequisite, German 404 or 406 or equivalent. To secure five credit hours, the student should also elect German 407 which may be followed by 408. No student may take more than three courses in this group. All instructors.

Readings from eighteenth and nineteenth century authors. One course in this group is offered each Quarter, the reading selections varying from year to year.

433. Autumn Quarter, 1931. Contemporary Novellen: Schnitzler, *Der blinde Geronimo*; Mann, *Unordnung und frühes Leid*; Thiess, *Abschied vom Paradies*; Ponten, *Der Meister*. Mr. Gausewitz.

434. Winter Quarter, 1932. Nineteenth Century Novellen: Storm, *Der Schimmelreiter*; Meyer, *Das Amulett*; Keller, *Die drei gerechten Kammacher*. Mr. Evans.

444. Spring Quarter, 1932. Contemporary Drama: Hauptmann, *Einsame Menschen*; Schnitzler, *Liebelei*; Thoma, *Moral*; Kaiser, *Von Morgens bis Mitternachts*. Mr. Mahr.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Elementary Course in the Reading of German. Five credit hours. Autumn Quarter. Five recitations each week. Open only to Seniors and graduate students. This course is not accepted as a prerequisite for any course in the department. Mr. Röseler.

The course is designed for Seniors and graduate students who desire to acquire a reading knowledge of German. Essentials of grammar and easy readings.

This course will be withdrawn unless there is a registration of at least ten students.

Proseminary: Eighteenth and Nineteenth Century Literature. Three credit hours. Autumn, Winter, and Spring Quarters. Three hours lecture and quiz each week. Prerequisite, six Quarters of German or equivalent.

615-616-617. Goethe. Three credit hours. Autumn, Winter, and Spring Quarters. Mr. Evans, Mr. Mahr, Mr. Gausewitz.

615. Autumn Quarter, 1931. Goethe's life and works up to the return from Italy. Mr. Evans.

616. Winter Quarter, 1932. Goethe's life and works from the return from Italy to Schiller's death. Mr. Mahr.

617. Spring Quarter, 1932. Goethe's life and work from Schiller's death to 1832. Mr. Gausewitz.

655. German Phonetics. Three credit hours. Autumn Quarter. Three hours lecture and drill each week. Prerequisite, six Quarters of German or equivalent. Mr. Kurath.

A study of the standard of German pronunciation and its chief variations. Practice in reading and writing phonetic texts.

*673. Middle High German. Three credit hours. Winter Quarter. Prerequisite, six Quarters of German or equivalent. Mr. Kurath.

Introduction to the morphology and syntax of Middle High German. Reading of selections from the *Nibelungenlied* and *Walther von der Vogelweide*.

*675. The German Language. Three credit hours. Spring Quarter. Three hours lecture and quiz each week. Prerequisite, six Quarters of German or equivalent. Mr. Kurath.

The study of texts illustrating the history of the German language.

685. Advanced Composition. Three credit hours. Spring Quarter. Three hours lecture and quiz each week. Prerequisite, German 407 and

* Not given in 1931-1932.

408 or equivalent and permission of the instructor in charge. Mr. Eisenlohr.

An advanced course in speaking and writing German, accompanied by a review of German syntax.

695. Minor Investigations. Two to ten credit hours. Autumn, Winter, and Spring Quarters. Open only on permission of the department. All instructors.

Investigations of minor problems in the various fields of German literature and philology.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 725.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

*801. Advanced Middle High German.

805. Gothic.

810. Old High German.

855-856-857. Seminary in German Literature.

†858. Seminary in German Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

GREEK LANGUAGE AND LITERATURE

(See Classical Languages and Literature)

HISTORY

Offices, 207, 204, 211, 215, 216, 217, 218, and 305, University Hall
 PROFESSORS WITTKÉ, SCHEVILL (UNIVERSITY OF CHICAGO), KNIGHT (EMERITUS), SIEBERT (RESEARCH), McNEAL, HOCKETT, WASHBURN, AND
 DORN, ASSOCIATE PROFESSORS HILL AND McDONALD, ASSISTANT PROFESSORS NOYES, CLYDE, ROSEBOOM, AND
 WEISENBERGER, MR. WENDER, MR. BLAIR, MR.
 SIMMS, MR. SMITH, MR. HARE, MR. DUPRE,
 AND ASSISTANTS

(For sequence of courses in history for students in the College of Education majoring in history, see page 79.)

401. Modern European History to 1815. Five credit hours. One Quarter. Autumn, Winter, Spring. Five class meetings each week. All instructors.

A general account of the history of western Europe from 1500 through the Napoleonic era, with a preliminary survey of the late Middle Age. This course, with 402, is the introductory work in history, and should be taken before History 403 and 404 by all who expect to major in the department. Textbook, collateral readings, and discussions.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

402. Modern Europe since 1815. Five credit hours. One Quarter. Autumn, Winter, Spring. Five class meetings each week. Prerequisite, History 401. All instructors.

A continuation of History 401.

403. History of the United States (1763-1850). Five credit hours. One Quarter. Autumn, Winter, Spring. Five class meetings each week. This course carries full credit for Seniors. All instructors.

A study of the general political, constitutional and economic development of the United States from the beginning of the Revolutionary era to the end of the Jacksonian epoch. Textbook, collateral readings, and discussions.

404. History of the United States (1850-1925). Five credit hours. One Quarter. Autumn, Winter, Spring. Five class meetings each week. This course carries full credit for Seniors. Prerequisite, History 403. All instructors.

A continuation of History 403.

407. Medieval Europe (400 to 1500). Five credit hours. Autumn Quarter. Five class meetings each week. Open to Freshmen. Mr. McNeal.

A general course in the history of Europe, from the collapse of the Roman Empire in the West to the Age of Discoveries. Textbook, collateral readings, and class discussion.

408. Outline of the History of Western Civilization. Five credit hours. Autumn Quarter. Five class meetings each week. Mr. Noyes and others.

First period—to 1650. Classical contributions: the Feudal Age and the Medieval Church (500-1250); the revival of commerce and the rise of towns (1250-1500); the Renaissance and the Protestant Revolt; voyages of discovery and the rise of the national monarchy (1500-1650).

This course is elective in place of History 401, and with 409 and 410, may be taken by those desiring a broad outline of the rise and progress of western civilization.

Lectures, readings, and conferences.

Not open to students who have credit for History 401-402, 403-404, or 405-406.

409. Outline of the History of Western Civilization. Five credit hours. Winter Quarter. Five class meetings each week. Mr. Noyes and others.

Second period—1650-1789. Scientific progress; the spread of liberal thought; the beginnings of the industrial revolution; colonial expansion and international rivalries; the American Revolution.

A continuation of History 408. Lectures, readings, and conferences.

Not open to students who have credit for History 401-402, 403-404, or 405-406.

410. Outline of the History of Western Civilization. Five credit hours. Spring Quarter. Five class meetings each week. Mr. Noyes and others.

Third period—1789-1931. Industrialism; the rise of democracy; nationalism, imperialism, and imperialistic rivalries; the progress and contributions of the American republics with especial emphasis upon the United States.

A continuation of History 409. Lectures, readings, and conferences.

Not open to students who have credit for History 401-402, 403-404, or 405-406.

421. England to 1603. Five credit hours. Autumn Quarter. Five class meetings each week. Not open to Freshmen. Mr. Noyes.

A general survey of English history during the Middle Age. Lectures, readings and discussions.

422. England since 1603. Five credit hours. Winter Quarter. Five class meetings each week. Not open to Freshmen. Mr. Noyes.

A continuation of History 421, but may be taken independently. Lectures, readings, and discussions.

437. The History of Ohio. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 403-404, or 405-406. Mr. Weisenburger.

A general survey of the history of Ohio, from the Indian period to the present time. Lectures, readings, and discussions.

FOR ADVANCED UNDERGRADUATES

For all courses in this group, the prerequisite is at least Junior standing and four Quarters in the social science field, of which at least two must be in history. Specific prerequisites are indicated in connection with specific courses.

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

607. The Renaissance. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 401-402; advanced students from other departments without these prerequisites must obtain the consent of the instructor. Mr. Dorn.

The Renaissance primarily as an Italian movement. The political evolution of the Italian communes into city republics, with special emphasis on Florence, Milan, Venice, Genoa and Rome; early capitalism and industrial and commercial movements; an analysis of the culture, art, science and literature of the Renaissance and their influence upon the Church, the Papacy, and modern modes of thought and behavior. Lectures, readings, reports, and discussions.

608. The Reformation. Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, History 401-402; advanced students from other departments without these prerequisites must obtain the consent of the instructor. Mr. Dorn.

The Church and European society in the later Middle Ages; culture and thought in the age of the Reformation; the rise of the European state system; Luther and the German national movement; Zwingli and Switzerland; Calvin; the expansion of Protestantism in Europe; and the relation of the Reformation to medieval and modern civilization. Lectures, readings, reports, and discussions.

609. The Roman Empire, the Period of the Principate. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, for undergraduates, History 656. Advanced students from other departments admitted only with the consent of the instructor. Mr. McDonald.

The development of the Roman government during the transition from the Republic to the Empire and of the history and institutions of the Empire from Augustus to the period of confusion in the third century. Lectures, readings, reports, and discussions.

610. The Late Roman Empire. Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, same as for History 609. Mr. McDonald.

A study of the history and institutions of the Empire from Diocletian to Justinian. Lectures, readings, reports, and discussions. This course is the natural continuation of History 609, but may be taken separately.

611. Constitutional History of England to 1485. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 421, or a major in history. Open to Arts-Law students and to advanced students in other departments without these prerequisites, only with the consent of the instructor. Mr. Noyes.

The origin and development of English legal institutions and government. Textbook, lectures, collateral readings, and discussions.

612. Constitutional History of England since 1485. Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, History 422, and same as for History 611. Mr. Noyes.

A continuation of History 611. Special emphasis will be given to the evolution of parliamentary government, constitutional liberties, the cabinet and party system, Catholic emancipation, electoral reform, the Irish question, and the rise of democracy. Textbook, lectures, collateral readings, and discussions.

613. England in the Tudor Period. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 421, or a major in history. Advanced students from other departments admitted only with the consent of the instructor. Mr. Noyes.

An intensive study of England in the period of transition, emphasizing social and political conditions, together with a brief survey of contemporary Europe. Some attention will be given to the source material of the period. Lectures, readings, reports, and discussions.

614. England in the Stuart Period. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 421, or a major in history. Advanced students from other departments admitted only with the consent of the instructor. Mr. Noyes.

An intensive study of England in the seventeenth century emphasizing social and political conditions, and England's relations with Europe and North America. Some attention will be given to the source material of the period. Lectures, readings, reports, and discussions.

***619. Medieval Civilization.** Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 407, or a major in history. Students in other departments admitted only with the consent of the instructor.

The formation of feudal society; culture of castle and court; the rise of towns and their social and economic life; the evolution of the Medieval Church and its educational and artistic contributions. Lectures, readings, problems, and class discussion.

621. Expansion of Europe to 1588. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 401-402, or a major in history. Advanced students from other departments admitted only with the consent of the instructor. Mr. Washburne.

A study of the early geographical ideas of the Europeans, their first contacts with the outside world, the period of discovery, the creation of the Portuguese empire in the East and the Spanish monopoly in the West, to the collapse of the Iberian control of European expansion by the destruction of the Armada in 1588. Lectures, readings, and discussions.

622. Expansion of Europe from 1588 to 1815. Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, same as for History 621. Mr. Washburne.

A study of the rise of the chartered trade companies; the ascendancy of the Dutch;

* Not given in 1931-1932.

the contest between the Dutch and the English for commercial supremacy and the long struggle between the English and the French for maritime supremacy, with its resultant effects upon India and North America through the settlement at the end of the Napoleonic era. Lectures, readings, and discussions.

623. Expansion of Europe from 1815 to the Present. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, same as for History 621. Mr. Washburne.

A study of the problems of expansion in the nineteenth and twentieth centuries; the development of India, the movement into the southern Pacific, the partition of Africa, and the various phases of modern imperialism after 1876 through the readjustment of territory under the mandate system after the World War. Lectures, readings, and discussions.

624. The French Revolution and Napoleon. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 401-402, or a major in history. Advanced students from other departments admitted only with the consent of the instructor. Mr. McNeal.

625. The Third French Republic. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, same as for History 624. Mr. McNeal.

628. The Reconstruction of Europe (1919-1926). Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, History 630. Advanced students from other departments admitted only with the consent of the instructor. Mr. Washburne.

The first phase of reconstruction after the War, from the decisions of the Paris Conference of 1919 to the entrance of Germany into the League of Nations in 1926; the various national and international problems involved in the attempted settlement of world conditions. Lectures, readings, and discussions.

629. Modern Germany (1789-1918). Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, History 401-402; advanced students from other departments without these prerequisites must obtain the consent of the instructor. Mr. Dorn.

Introductory lectures on the basic problems and tendencies of German history; Germany and the French Revolution; German Enlightenment and Romanticism and their relation to political thought; the Stein-Hardenberg reforms and the war of liberation; Prussia, Austria and the problem of German unity; the nationalist and democratic movements; the Bismarckian Empire; industrial development; William II and the World War; the German Revolution of 1918. Lectures, readings, reports, and discussions.

630. The Diplomacy of Europe (1878-1919). Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 401-402, or a major in history. Advanced students from other departments admitted only with the consent of the instructor. Mr. Washburne.

A study, with the use of the new material now available, of the diplomatic obligations of the European states from the Congress of Berlin of 1878 to the Paris Conference of 1919; the formation of alliances, the crises which culminated in the war, and the attitude of European leaders. Lectures, readings, and discussions.

***631. Constitutional History of the United States to 1837.** Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 403-404, or 405-406. Mr. Hockett.

The purpose of this course, together with History 632, is to exhibit the growth of our constitutional system in its genetic aspects, as the product of vital social forces. Lectures, discussions and reports.

632. Constitutional History since 1837. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, same as for History 631. Mr. Hockett.

A continuation of History 631.

633. The Slavery Controversy in the United States. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 403-404, or 405-406. Mr. Simms.

The ante-bellum South and its destruction; the Civil War in the light of the forces which tended to hasten or obstruct the clash of arms. Lectures, readings, and discussions.

634. Reconstruction and the New South (1863-1925). Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, same as for History 633. Mr. Simms.

The aftermath of the slavery struggle as traced in the reconstruction of the Southern States and in the readjustment of society and of the states to the new status of the negro, and to the economic forces of the last half century. Lectures, readings, reports, and discussions.

635. American Diplomacy to the Close of the Civil War. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 403-404, or 405-406. Mr. Hill.

The foreign relations of the United States, beginning with the diplomacy which resulted in the establishment of independence and including such subjects as the struggle for neutral rights and commercial recognition, the extension of territory on the continent, the origin of the Monroe Doctrine, and the international controversies of the Civil War. Lectures, discussions, and reports.

636. American Diplomacy since the Civil War. Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, same as for History 635. Mr. Hill.

Problems in the diplomacy of the United States resulting from the Civil War, the development of the Monroe Doctrine, the acquisition of dependencies, relations with Latin America and the Orient, arbitration, the Isthmian Canal, and neutral rights during the Great War in Europe. Lectures, discussions, and reports.

637. Recent History of the United States (1875-1930). Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 403-404 or 405-406. Mr. Wittke.

An intensive study, by the topical method, of political, constitutional, industrial, and social problems during the last fifty years. Among the topics to be considered are the economic revolution; the rehabilitation of the South; the transformation of the West; agrarian unrest; third party movements; money and banking, and the tariff. Lectures, textbook, collateral readings, and discussions.

* Not given in 1931-1932.

638. Recent History of the United States (1875-1930). Three credit hours. Winter Quarter. Three class meetings each week. Prerequisite, History 403-404 or 405-406. Mr. Wittke.

This course is the natural continuation of History 637, but may be taken separately. Among the topics to be considered are the rise of capitalistic combinations; transportation problems; the labor movement; the woman's movement; immigration; the trend of political reform; the foreign contacts of the United States; and the problems of reconstruction after the World War. Lectures, textbook, collateral readings and discussions.

639. The Influence of Immigrant Groups upon United States History. Five credit hours. Spring Quarter. Five class meetings each week. Prerequisite, History 403-404 or 405-406. Mr. Wittke.

The share of different immigrant groups in the building of the nation, from the colonial period to the present, with special emphasis on the influence of immigration upon American political, economic, social, and cultural development. Lectures, reading, and discussions.

640. The Pioneer in American History to 1812. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 403-404, or 405-406. Mr. Hockett.

This course, together with History 641, follows the expansion of settlement westward from the Atlantic coast, picturing the life of the pioneers and the rise of new communities, and tracing their influence upon national development. Lectures, discussions, and reports.

***641. The Pioneer in American History since 1812.** Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, same as for History 640. Mr. Hockett.

A continuation of History 640.

643. Political Parties in the United States. Five credit hours. Winter Quarter. Five class meetings each week. Prerequisite, History 403-404 or 405-406. Mr.

The radical party of the Revolution; the origin and growth of national parties; the slavery issue in party politics; the effect of the Civil War upon parties; party development in recent American history, special attention being devoted to the influence of the new economic and social conditions in creating new parties and policies. Lectures, readings, discussions, and reports.

Not open to students who have credit for History 431.

644. The Colonization of North America. Three credit hours. Autumn Quarter. Three class meetings each week. Prerequisite, History 403-404 or 405-406. Mr. Roseboom.

A survey of the transplanting of European culture and institutions to North America. Colonizing methods of the leading colonial powers will be considered as well as the expansion of their colonies and the resulting international struggle for supremacy, with special emphasis upon English colonization and institutional development. Lectures, readings, reports, and discussions.

Not open to students who have credit for History 433.

645. Colonial Latin America. Three credit hours. Winter Quarter. Three class meetings each week. Mr. Hill.

The European background; conquest and settlement; institutions and social conditions; development of the revolutionary spirit and the wars for independence. Lectures, readings, and discussions.

Not open to students who have credit for History 434.

* Not given in 1931-1932.

646. The Latin-American Republics. Five credit hours. Spring Quarter. Five class meetings each week. Mr. Hill.

The establishment of the republics; evolution of the larger powers, with minor attention to the smaller; relations of the republics with one another and with the outside world. Lectures, readings, and discussions.

Not open to students who have credit for History 435.

647. History of Canada. Five credit hours. Spring Quarter. Five class meetings each week. Mr. Wittke.

An intensive study of Canadian history with special emphasis on the relations of Canada with the United States and with the mother country, and the comparison of Canadian institutions and problems with our own. Lectures, textbook, collateral readings, and discussions.

Not open to students who have credit for History 436.

***648. The Revolutionary Era (1760-1789).** Three credit hours. Three class meetings each week. Prerequisite, History 403-404, or 405-406.

The social and economic background of the Revolution; the efforts of England to establish a new type of imperial organization, the diplomatic phases of the period, and the social and political consequences of American Independence. Lectures, readings, reports, and discussions.

654. The Age of the Crusades. Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, a major in history. Students majoring in other departments admitted only with the permission of the instructor. Mr. McNeal.

Conditions in western Europe preceding the First Crusade, influence of the early crusading movement in the development of Western Europe in the twelfth century, contemporary accounts of the Crusades. Reading, lectures and reports on contemporary sources.

655. Greek History. Five credit hours. Autumn Quarter. Five class meetings each week. Mr. McDonald.

An intensive study of Greece, with a brief introductory survey of the ancient civilization of the Near East. Lectures, readings, reports, and discussions.

Not open to students who have credit for History 412.

656. Roman History. Five credit hours. Winter Quarter. Five class meetings each week. Mr. McDonald.

This course is the natural continuation of History 655. Lectures, readings, reports, and discussions.

Not open to students who have credit for History 413.

660. History of Japan. Five credit hours. Autumn Quarter. Five class meetings each week. Mr. Clyde.

A survey of Japanese history from the earliest times to the present day, stressing the economic, social, intellectual, and political life of the nation.

Not open to students who have credit for History 427.

***661. Government and Institutions of Modern Japan.** Five credit hours. Winter Quarter. Five class meetings each week. Mr. Clyde.

* Not given in 1981-1982.

662. American Diplomacy in the Pacific and the Far East. Three credit hours. Spring Quarter. Three class meetings each week. Mr. Clyde.

A study of the expansion of American territory and the development of American policy in Hawaii, the Philippines, and the Far East. Lectures, readings, reports, and discussions.

663. History of Modern China. Five credit hours. Winter Quarter. Five class meetings each week. Mr. Clyde.

This course provides a brief outline of the period prior to 1644, a detailed consideration of the history of the Manchu Empire (1644-1911) and the problems which led to its fall; and a study of the government and politics of the republic from 1912 to the present.

Lectures, readings, reports, and discussions.

***671. The Counter Reformation.** Three credit hours. Spring Quarter. Three class meetings each week. Prerequisite, History 401-402; advanced students from other departments without these prerequisites must obtain the consent of the instructor. Mr. Dorn.

The Catholic Renaissance in Latin Europe; the Council of Trent, the Society of Jesus and modern Catholicism; the culture and art of the period; French classicism, and the early enlightenment; political and economic life in the age of Philip II; the Dutch Wars of independence and the politics of the Dutch Republic; the wars of religion in France; the Thirty Years War in Germany, and Hapsburg-Bourbon rivalry.

Lectures, readings, reports, and discussions.

673. The History of the Balkan Peninsula since 1800. Three credit hours. Spring Quarter. Mr. Schevill.

A study of the decay of the Ottoman Empire and the rise of the subject peoples, the Greeks, Serbs, Roumanians, Bulgars and Albanians, to independent statehood. The course will treat of the conflict between Mohammedanism and Christianity, the dissolution of frozen social and political forms and customs, under the impact of a progressive civilization like that of Western Europe. The role of nationalism will be examined, and the rivalry of the Great Powers leading to the World War.

Lectures, readings, and discussions.

705-706-707. Honors Courses. Three to five credit hours. Autumn, Winter, and Spring Quarters. Informal conferences, the intent being to allow full scope to the initiative of the student. Prerequisite, Senior standing and forty hours of credit in History, with the record of "A" in at least half of the History courses and an average of "B" in the remainder. At least two Quarters required of candidates for the degree of Bachelor of Arts with Distinction in History. Mr. Wittke, with the cooperation of other members of the department.

A special topic is assigned to each student each Quarter, and results are tested by the requirement of theses and a special examination. Inability to attain a grade of "B" in this course will be a disqualification for special honors.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 700.

* Not given in 1931-1932.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

812. Introduction to Historical Research.

813. The Great Historians, to the Nineteenth Century.

814. The Theory and Practice of Writing History since the Beginning of the Nineteenth Century.

815. Seminary in European History.

816. Seminary in European History.

817. Seminary in European History.

819. Seminary in American History.

820. Seminary in American History.

821. Seminary in American History.

For description of graduate courses in this department, and for requirements for advanced degrees, see the Bulletin of the Graduate School.

HISTORY OF EDUCATION

Office, 204 Education Building

PROFESSORS ANDERSON AND GOOD, ASSISTANT PROFESSOR ECKELBERRY,
MR. FAY, MR. SHOEMAKER

401. The History of Elementary Education. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures each week. Required of students preparing to teach in elementary schools. Mr. Eckelberry, Mr. Fay.

Not open to students who have credit for History of Education 404, 405, 625, or 626.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Educational Classics. Four credit hours. Winter Quarter. Two two-hour periods each week. Mr. Anderson.

Readings in Plato, Aristotle, Plutarch, Quintilian, Montaigne.

Not open to students who have credit for History of Education 350 or 351.

602. Educational Classics. Four credit hours. Spring Quarter. Two two-hour periods each week. Mr. Anderson.

Readings in Comenius, Locke, Rousseau, Pestalozzi, Herbart, Froebel.

Not open to students who have credit for History of Education 352 or 353.

605. History of Education in the United States to 1860. Four credit hours. Autumn Quarter. Four lectures each week. Mr. Good.

606. History of Education in the United States since 1860. Four credit hours. Spring Quarter. Four lectures each week. Mr. Good.

607. History of Industrial Education. Two credit hours. Winter Quarter. Two lectures each week. Mr. Anderson.

608. History of the American High School. Two credit hours. Autumn Quarter. One two-hour lecture each week. Mr. Eckelberry.

An historical and comparative study of the American high school.

*609. Present-Day Problems in Education, I. Two credit hours. Spring Quarter. Two lectures each week. Mr. Good.

A review in the light of their history of the most noteworthy of recent attempts to solve the most urgent problems in elementary and secondary school education.

610. Present-Day Problems in Education, II. Two credit hours. Spring Quarter. Two lectures each week. Mr. Good.

An historical study of attempts at a solution of the more urgent educational problems of today. A continuation of History of Education 609.

611. The History of Education in Ohio. Two credit hours. Autumn Quarter. Prerequisite, History of Education 626. Mr. Eckelberry.

A study of the development of elementary, secondary and higher education in Ohio as related to the political, social and economic development of the state.

*612. The Origins of Present-Day Education. Three credit hours. Prerequisite, one course in European history, philosophy, or psychology.

A study of the evolution of educational institutions and practices from the eighteenth century on and of their relationship to existing education in the United States; the development of universities, secondary schools, and elementary training; the evolution of the curriculum and classroom methods; the history of the growth of individual adjustment; the factors in educational history making for democracy, especially in American school systems; and the development of industrial and vocational education.

613. Comparative Education. Two credit hours. Winter Quarter. Two lectures each week. Mr. Anderson.

A survey with historical introduction, of existing systems of elementary and secondary education in Denmark, Germany, and in certain sections of the United States.

Not open to students who have credit for History of Education 603.

614. Comparative Education. Two credit hours. Spring Quarter. Two lectures each week. Mr. Anderson.

A survey, with historical introduction, of existing systems of education in England and France.

Not open to students who have credit for History of Education 604.

617. Great Teachers. Two credit hours. Spring Quarter. One two-hour lecture each week. Mr. Good.

Comparative and historical studies of the personalities, methods, lives, and times of several eminent teachers: Socrates, Plato, Jesus, Quintilian, St. Augustine, Abelard, Vittorino, Melancthon, Agassiz, Kold, Arnold, Silliman, and others.

*618. Nineteenth Century Leaders of Educational Thought in England. Four credit hours. Spring Quarter. Four lecture hours each week. Open to Juniors, Seniors, and graduate students. Mr. Anderson.

A historical study of the educational writings of John Ruskin, Matthew Arnold, Thomas Huxley, John Stuart Mill, and other English intellectual leaders of the nine-

* Not given in 1931-1932.

teenth century who have exerted a wide and profound influence upon the educational thought of our time.

620. The History of Higher Education. Two credit hours. Autumn Quarter. Two lectures each week. Mr. Good.

A study of the rise and progress of universities and research institutions in ancient, medieval and modern times; and of their relations to the society which they have served.

621. The Influence of the Natural Sciences on Education. Two credit hours. Winter Quarter. One two-hour lecture each week. Prerequisite, a total of twenty hours in natural science. Mr. Fay.

A study of the development of the aims, content, and methods of the natural sciences in secondary and elementary schools as related to social and economic development and to the development of the sciences. Particular attention is given to the influence of the natural sciences on educational aims and curricula and on the extension of popular education.

623. History of Pre-Renaissance Education. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, one course in European history, philosophy, or psychology. Mr. Fay.

Not open to students who have credit for History of Education 403.

625. The History of Modern Education to 1750. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lectures each week. Required in the College of Education. Prerequisite, one course in European history, philosophy, or psychology. All instructors.

Not open to students who have credit for History of Education 404.

626. The History of Modern Education since 1750. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lectures each week. Required in the College of Education. Prerequisite, one course in European history, philosophy, or psychology. All instructors.

Not open to students who have credit for History of Education 405.

†630. History of Western Education. Three credit hours.

A broad survey of the development of Western education from its beginnings in the early Mediterranean civilizations up to the present time, giving an account of (1) the major cultural changes, by way of background; (2) the origins of the chief educational institutions and the more important changes that came with changes of conditions; (3) the gradual upbuilding of a body of educational doctrines, to serve as guiding principles for home and school.

†640. Rousseau and Modern Education. Two credit hours.

(1) A critical consideration of the *Emile* and the other educational writings of Rousseau, as the fountain-head of modern educational theory and practice; (2) the application made of Rousseau's teaching by Pestalozzi, and the problems Pestalozzi set his successors; (3) the divergence of the Pestalozzian tradition in the theories and techniques of Herbart and Froebel; (4) the genetic point of view in education, with special reference to the American Child Study Movement; (5) the new education of the twentieth century in America and Europe.

651. Minor Problems. One to three credit hours. Autumn, Winter, and Spring Quarters. Students must secure the permission of the in-

† Not given during the academic year, 1931-1932.

structor before registering. Mr. Anderson, Mr. Good, Mr. Eckelberry, Mr. Fay.

Designed to help students in applying historical methods to the solution of practical problems.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801. Seminary in the History of Education.

*805. A Survey of Source Material and of General Literature in the Field of the History of Education Among the Ancient Greeks.

*806. A Survey of Source Material and of General Literature in the Field of the History of Education in Western Europe during the Roman and Medieval Periods.

*807. A Survey of Source Material and of General Literature in the History of Education from the Beginning of the Italian Renaissance to the Middle of the Eighteenth Century.

808. A Survey of Source Material and of General Literature in the History of Education from the Middle of the Eighteenth Century.

809. Research in the History of Education.

For description of graduate courses in this department see the Bulletin of the Graduate School.

HOME ECONOMICS

Office, 220 Campbell Hall

PROFESSORS LANMAN AND McKAY, ASSOCIATE PROFESSOR LINDQUIST,
ASSISTANT PROFESSORS KENNEDY, DONNELLY, TURNBULL, BANCROFT, MINTON AND SMITH, MISS RYAN, MISS HUGHES, MISS
HEINER, MISS GRANDPREY, MISS DAVIS, MISS GRIFFITH
AND ASSISTANTS

(For Curriculum in Home Economics, see page 56)

400. An Introduction to Home Economics. One credit hour. One Quarter. Autumn and Winter. Two meetings each week for lecture and class discussion. Miss Lanman, Miss Lindquist, and Miss Turnbull.

This course is planned to acquaint students with the scope of home economics and the opportunities it offers; to help the members of the class to solve their present student problems and assist them in the selection of courses for succeeding years.

401. Elementary Textiles. Five credit hours. One Quarter. Autumn, Winter, Spring. Three hours for discussion and two two-hour laboratory periods each week. Home Economics, first year. Prereq-

* Not given in 1931-1932.

quisite or concurrent, Chemistry 401 or 411, and Fine Arts 426. Miss Turnbull, Miss Griffith.

A study of textile fibers, yarns and fabrics with reference to production, structure, composition, and cost. Problems in the purchase of fabrics and of clothing and the clothing budget are introduced.

402. Clothing. Five credit hours. One Quarter. Autumn, Winter, Spring. Two hours for discussion and three two-hour laboratory periods each week. Home Economics, first year. Prerequisite, Home Economics 401, and Fine Arts 426. Miss Turnbull, Miss Griffith, Miss Heiner, Miss Ryan.

An application of the principles of design and construction to clothing. The selection of clothing, the use of patterns, and the problems involved in construction are emphasized.

404. Textiles and Clothing. Five credit hours. Winter Quarter. Two meetings for class discussion and three two-hour laboratory periods each week. Not open to students majoring in Home Economics. Elective to others. No prerequisite. Miss Ryan.

A course in clothing selection and construction planned to meet the needs of those who wish to acquire a general knowledge of the subject.

406. Household Engineering. Five credit hours. One Quarter. Winter and Spring. Three hours for class discussion and two two-hour laboratory periods each week. Home Economics, first year. Miss Davis.

A study of the principles involved in the selection, construction, operation, and care of household equipment and its relation to the well being of the family.

411. Foods. Five credit hours. One Quarter. Autumn, Winter, Spring. Three three-hour periods each week for class discussion and laboratory work. Special lectures, demonstrations, and trips are arranged to supplement classroom and laboratory work. Home Economics, second year. Prerequisite or concurrent, Chemistry 402 or 412. Mrs. Minton, Miss Hughes.

An introduction to the study of the principles involved in the selection and preparation of food.

412. Foods. Five credit hours. One Quarter. Autumn, Winter, Spring. Three three-hour periods each week for class discussion and laboratory work. Home Economics, second year. Prerequisite, Home Economics 411. Miss Hughes.

A continuation of Home Economics 411, with additional planning, preparation, and serving of meals for the family group.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

502. Millinery. Two credit hours. Spring Quarter. Two two-hour periods each week. Prerequisite or concurrent, Home Economics 403 or 503. Miss Heiner.

The selection, construction, and renovation of hats. A study is made of hats in relation to the costume.

503. Clothing. Five credit hours. One Quarter. Autumn, Winter, Spring. Three three-hour periods each week for discussion and laboratory work. Home Economics, third year. Prerequisite, Home Economics 402 and Fine Arts 436. Miss Heiner, Miss Ryan.

An application of the principles of economics and of art to the selection and construction of clothing. Selection is done through the courtesy of local stores. Designing is done by modeling in fabrics.

Not open to students who have credit for Home Economics 403.

504. Applied Costume Design. Three credit hours. Winter Quarter. Three meetings each week for class discussion and demonstration. Prerequisite, Fine Arts 426 and Home Economics 401. Miss Heiner, Miss Ryan.

An application of the principles of design in costume for various types of individuals.

509. Elements of Nutrition. Three credit hours. Winter Quarter. Three meetings for class discussion each week. Not open to students majoring in home economics. Elective to other Juniors and Seniors. Miss McKay.

A non-technical course in which the essentials of an adequate diet are introduced.

Not open to students who have credit for Home Economics 409, 410 or 510.

510. Elements of Nutrition and Food Preparation. Five credit hours. Winter Quarter. Three meetings for class discussion and two two-hour laboratory periods each week. Not open to students majoring in home economics. Elective to other Juniors and Seniors. This course is of equal interest to men and women. Miss McKay.

A non-technical course in which the essentials of an adequate diet are introduced. This part of the course is identical with Home Economics 509. In addition, information thus presented is used in planning, preparing, and serving meals for the family group.

Not open to students who have credit for Home Economics 409 or 410.

511. Home Hygiene. Three credit hours. One Quarter. Autumn and Winter. Three meetings for class discussion each week. Home Economics, fourth year. Prerequisite, Home Economics 402, 412, Bacteriology 607, and Physiology 408. Miss Lanman.

A study of the interdependence of the home and of public agencies in securing and promoting hygienic and sanitary measures and practices, and of public agencies in promoting health.

512. House Furnishing. Five credit hours. One Quarter. Autumn, Winter, Spring. Three hours for discussion and two two-hour laboratory periods each week. Prerequisite, Fine Arts 426 and Home Economics 402; prerequisite or concurrent, Engineering Drawing 438.

The course includes a study of the evolution of the home, a brief history of architecture, ornament, and furniture, and a study of fundamental principles of house furnishing from a constructive, aesthetic, and economic standpoint.

518. Elements of Homemaking. Five credit hours. One Quarter. Autumn and Spring. Five meetings for class discussion each week. Not open to students majoring in home economics. Elective to other Juniors

and Seniors. This course is of equal interest to men and women. Miss Lindquist.

A non-technical course in which the principles of household administration are introduced. The course includes a survey of the factors influencing the general division of the family income and a survey of the principles of selection and purchase of clothing, and of textile materials, furnishings, and equipment for the home.

Not open to students who have credit for Home Economics 418.

520. The Child in the Home. Three credit hours. One Quarter. Autumn and Spring. Three meetings for class discussion each week. Observation hours to be arranged. Not open to students majoring in Home Economics. Elective to other Juniors and Seniors. Miss Smith, Miss Grandprey.

This course considers problems concerning the development, care, and training of the child in the home. The Home Economics Nursery School affords an opportunity for observation of children.

Not open to students who have credit for Home Economics 421.

601. Clothing. Three credit hours. One Quarter. Autumn, Winter, Spring. Six hours each week for discussion and laboratory. Prerequisite, Home Economics 403 or 503. Miss Heiner, Miss Ryan.

A continuation of Home Economics 503.

Not open to students who have credit for Home Economics 501.

602. Textiles. Three credit hours. Autumn Quarter. Two three-hour periods each week for class discussion and laboratory. Elective. Prerequisite, Chemistry 402 or 412, and Home Economics 402. Miss Griffith.

A study of the characteristics of textile fibers and fabrics by means of chemical and physical tests. Discussions of recent developments in the field of textiles.

603. Textiles. Three credit hours. Winter Quarter. Three meetings each week for class discussion, demonstration, and reports. Prerequisite, Fine Arts 426 and Home Economics 401. Miss Griffith.

A study of the selection of fabrics with reference to design and use.

611. Nutrition. Five credit hours. One Quarter. Autumn, Winter, Spring. Three meetings for class discussion and two two-hour laboratory periods each week. Home Economics, third year. Prerequisite, Home Economics 412, Physiology 408, and Agricultural Chemistry 403. Miss McKay.

A study of the fundamental principles of human nutrition and their application to the feeding of individuals and groups under varying physiological and economic conditions.

612. Nutrition. Five credit hours. Spring Quarter. Three two-hour periods each week for class discussion and laboratory; other hours to be arranged. Prerequisite, Home Economics 611. Miss McKay.

A continuation of Home Economics 611. A study of current literature on nutrition. Problems of feeding in connection with overweight, underweight, rickets, diabetes, and other abnormal conditions are discussed.

614. Foods. Three credit hours. One Quarter. Autumn and Winter. Three meetings each week for class discussion and demonstration.

Prerequisite, Home Economics 611 and Economics 407 or 401-402. Miss McKay.

This course considers problems of the modern homemaker concerning the purchase of food and the planning and preparation of meals.

615. Experimental Work in Food Preparation. Five credit hours. Winter Quarter. Three three-hour periods each week for class discussion and laboratory. Elective. Prerequisite, Home Economics 611. Mrs. Minton.

This course provides an introduction to research through the application of scientific principles to problems involved in food preparation.

Additional experimental work in food preparation may be had by registering in Home Economics 701.

618. The Purchase of Clothing and Household Furnishings. Five credit hours. Autumn Quarter. Three meetings each week for class discussion; other hours to be arranged. Elective. Prerequisite, Home Economics 402, Economics 407 or 401, and Sociology 401.

This course deals with social and economic factors involved in the purchase of clothing and household furnishings. Field work is arranged with wholesale and retail merchants.

619. Household Equipment. Three credit hours. Spring Quarter. One meeting each week for class discussion; other hours to be arranged. Elective. Prerequisite, Home Economics 406 and Economics 407 or 401. Prerequisite or concurrent, Home Economics 617 or 626 and 627. Miss Davis.

A study of special problems of household equipment.

621. Child Development. Five credit hours. One Quarter. Autumn, Winter, Spring. Four meetings for class discussion each week; laboratory to be arranged. Prerequisite, Psychology 401, and Home Economics 611; prerequisite or concurrent, a course in sociology. Miss Smith, Miss Grandprey.

The nature, development, care, and training of the child and the responsibility of society for providing for the physical, mental, and social needs of the child. The Home Economics Nursery School affords an opportunity for experience in dealing with problems of child care and management.

626. Principles of Home Management. Three credit hours. One Quarter. Autumn, Winter, Spring. Three periods each week for class discussion. Credit will not be given until Home Economics 627 has been completed. Prerequisite, Home Economics 402, 412, 512, 611, and Economics 407 or 401. Miss Lindquist, Miss Davis.

A study of the organization and management of the household with a view to securing the maximum of family welfare. Time is given to a consideration of the problems of expenditure through a study of relative values, examination of budgets, and discussion of factors influencing choice.

Not open to students who have credit for Home Economics 617.

627. Laboratory in Home Management. Five credit hours. One Quarter. Autumn, Winter, Spring. One conference each week and laboratory to be arranged. Prerequisite, or concurrent, Home Economics 621 and 626. Miss Lindquist.

Problems in family relationships, household expenditure, and care of the home are considered. The household management house where the students live in groups for a

period of time affords opportunity for experience in solving these problems. Students preparing to teach are advised to schedule Home Economics 642 concurrently.

Not open to students who have credit for Home Economics 617.

631. Institution Management. Five credit hours. One Quarter. Autumn, Winter, Spring. Credit will not be recorded until the following course, Home Economics 632, has been completed. Hours for discussion and laboratory to be arranged. Limited to ten students. Prerequisite, Home Economics 611, Economics 407 or 401-402; prerequisite or concurrent, Home Economics 630. Mrs. Kennedy.

This course considers the preparation of food in large quantities, food cost accounting, efficiency problems, use and care of equipment and organization of employees. The laboratory work will be conducted in the Pomerene Hall Refectory. No other course than Home Economics 630 is to be scheduled with this course. Inasmuch as more than the usual amount of time is required for Home Economics 631, some remuneration will be paid for a part of the work.

632. Institution Management. Five credit hours. One Quarter. Autumn, Winter, Spring. Two three-hour periods each week for lecture and laboratory; other hours to be arranged. Prerequisite or concurrent, Accounting 405, and Animal Husbandry 407. Accounting 606 is recommended as part of the sequence in Institution Management. Mrs. Kennedy.

This course considers the housing and food problems in various types of institutions. The Pomerene Hall Refectory, the Ohio Union Cafeteria, and the women's dormitories are used as laboratories. Observations are made in restaurants, tea rooms, hotels, schools, and hospitals.

633. School Lunchroom Management. Three credit hours. Spring Quarter. One lecture and four hours laboratory each week. Prerequisite or concurrent, Home Economics 611. Mrs. Kennedy.

This course is arranged for those who wish to be prepared to manage school lunchrooms in connection with their teaching. It consists of a survey of equipment, organization, and management, with observations and practice in city and rural school lunchrooms.

641. Home Economics Teaching. Five credit hours. One Quarter. Autumn, Winter, Spring. Three meetings for class discussion each week; observations to be arranged. Elective for Juniors, Seniors, and graduate students. This course is offered to fulfill in part the requirements for state certification for teaching home economics. It is required that students registering for this course arrange their schedules so that they may have at least two half-days each week for observation trips. Home Economics, fourth year. Prerequisite, twenty-five Quarter-credit hours in required courses. Prerequisite or concurrent, five additional hours in required home economics courses. Miss Donnelly, Miss Bancroft.

This course is concerned with methods of teaching Home Economics, organization of subject matter for various types of schools, management in the classroom and community responsibilities of the teacher. Observations of Home Economics classes in urban and rural schools are scheduled.

642. Supervised Home Economics Teaching. Five credit hours. One Quarter. Autumn, Winter, Spring. Hours for supervised teaching and individual conferences to be arranged. Schedule cards for the Quarter must be approved by those in charge of the course. Elective for Seniors and graduate students. This course is offered to fulfill in part the requirements for state certification for teaching home economics.

Students registering for this course must arrange their schedules so that they may have five half-days each week free for supervised teaching. As soon as schedules are approved by the Registrar, each student electing this course should report to Miss Donnelly to fill out a card for student teaching assignments. Prerequisite, Home Economics 641; concurrent, Home Economics 643. Miss Donnelly, Miss Bancroft and supervising teachers.

This course affords teaching opportunity in urban and rural schools and in social settlements.

643. Problems in the Teaching of Home Economics. Three credit hours. One Quarter. Autumn, Winter, Spring. Three meetings each week for class discussion. Home Economics, fourth year. Prerequisite, Home Economics 641; concurrent, Home Economics 642. Miss Donnelly, Miss Bancroft.

This course includes a consideration of the problems met by teachers of the various phases of home economics in junior and senior high school, part-time and evening schools; and in social service groups.

644. Problems in the Teaching of Home Economics. Three credit hours. Spring Quarter. Three meetings each week for class discussion. Prerequisite, teaching experience in home economics and Home Economics 641. Miss Donnelly.

The consideration of the problems of the experienced home economics teacher, discussion centering around the solution of these problems in the light of modern educational theories and practices.

645. Vocational Home Economics in Secondary Schools. Three credit hours. Winter Quarter. One two-hour meeting each week for discussion. Prerequisite, Home Economics 641 and teaching experience in home economics or consent of instructor. Miss Huston.

Attention is given to the provisions of the vocational education acts as they apply to home economics in secondary schools. Special problems which are met by teachers of vocational home economics are considered.

701. Special Problems in Home Economics. Three to fifteen credit hours for one Quarter or more. To be given in units of three or five hours. Autumn, Winter, Spring. One conference or more each week. Prerequisite, twenty-five Quarter-credit hours in the required courses in Home Economics and consent of the instructor. Miss Lanman, Miss McKay, Miss Donnelly, Mrs. Kennedy, Miss Smith, Miss Ryan, Mrs. Minton, Miss Heiner, Miss Davis, Miss Griffith.

Readings and reports on home economics topics. Problems chosen for individual study.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801. Advanced Special Problems in Home Economics.

†**802. Seminary in Home Economics Teaching.**

For description of graduate courses in this department see the Bulletin of the Graduate School.

† Not given during the academic year, 1931-1932.

HORTICULTURE AND FORESTRY

Office, 118 Horticulture Building

PROFESSORS GOURLEY AND LAURIE, ASSISTANT PROFESSORS
CHADWICK AND WIESEHUEGEL

FLORICULTURE AND ORNAMENTAL HORTICULTURE

441. Amateur Floriculture. Three credit hours. Spring Quarter. Two recitations and one two-hour laboratory period each week. Open to all students except those in floriculture. No prerequisite. Mr. Chadwick.

A course designed for any student in the University who desires a general knowledge and appreciation of flowers and other ornamental plants about the home.

No credit will be given for this course if other courses in floriculture have been taken.

444. Garden Management. Five credit hours. Spring Quarter. Three recitations and two two-hour laboratory periods each week. Landscape Architecture, third year. Mr. Laurie.

A course designed to acquaint the student with the use and culture of outdoor ornamental crops.

445. Arrangement and Planting of Gardens and Small Properties. Five credit hours. Winter Quarter. Three recitations and two three-hour laboratory periods each week. Prerequisite, Horticulture 444 and 450 and the required courses of the Freshman and Sophomore years of the Horticulture curriculum. Mr. Chadwick.

This course deals with the arrangement, planting, and use of ornamental materials in gardens and on small properties.

FORESTRY

501. General Forestry. Three credit hours. Autumn Quarter. Three recitations each week. No prerequisite. Mr. Wiesehuegel.

A general course designed to give students majoring in forestry a conception of the various branches of forestry, its relation to national prosperity, the development of the movement in the United States, relation to conservation in general, the need for forestry, character of the work and professional opportunities with occasional lectures by members of the staff of the Central States Forest Experiment Station.

Not open to students who have credit for Horticulture 458.

507. Wood Technology. Five credit hours. Winter Quarter. Three recitations and two three-hour laboratory periods each week. Prerequisite, Forestry 508. Mr. Wiesehuegel.

Structure and identification of our commercially important native woods, their durability, physical and mechanical properties and the application of these properties to industrial utilization.

INDUSTRIAL ARTS

(See Industrial Engineering)

INDUSTRIAL ARTS EDUCATION

(See Practical Arts and Vocational Education)

INDUSTRIAL ENGINEERING

Office, 119 Industrial Engineering Building

PROFESSORS YOUNGER AND KNIGHT, ASSISTANT PROFESSOR RICKLY, MR. FOUST, MR. DENMAN, MR. WRIGHT, MR. SCHNEIDER, MR. MORRISON, MR. LEHOCZKY, AND ASSISTANT

405. Foundry Practice. Three credit hours. One Quarter. Autumn, Winter, Spring. One recitation, six laboratory hours each week. Mr. Schneider.

Laboratory practice in bench, floor and machine moulding, cupola operation, and core making. Recitations cover foundry tools and appliances. Foundry materials—sands, clays, facings, fluxes, and core binders. Mixtures for gray iron, brass, bronze, and aluminum. Founding losses and production methods.

406. Advanced Foundry Practice. Two credit hours. One Quarter. Winter and Spring. One recitation, four laboratory hours, and one hour of preparation each week. Industrial Engineering, second year. Prerequisite, Industrial Engineering 405. Mr. Schneider.

A continuation of Industrial Engineering 405, with more advanced practice in moulding, the testing of foundry materials, and a further consideration of the technical and commercial aspects of foundry practice.

407. Metal Bench Work. Two credit hours. One Quarter. Autumn, Winter, Spring. One recitation, four laboratory hours each week. Mr. Rickly, Mr. Morrison.

Laboratory practice in sheet metal work, soldering and brazing, hand and power chipping, filing, fitting, scraping, light drilling, tapping, and punch press work.

408. Millwrighting. Two credit hours. One Quarter. Autumn, Winter, Spring. One recitation, four laboratory hours each week. Mr. Rickly, Mr. Morrison.

Practical consideration given to the use and care of belting, erection of shafting, setting and alignment of machines, fastenings of various kinds, babbitting, pipe fitting, and autogenous welding.

411. Patternmaking. Three credit hours. One Quarter. Autumn and Winter. One recitation, six laboratory hours each week. Mr. Denman.

Laboratory practice in modern methods of patternmaking in a well-equipped shop. Recitations cover general principles of patternmaking, woods used, glued joints, methods of building up, draft, shrinkage, coating, and storage.

412. Advanced Patternmaking. Two credit hours. One Quarter. Autumn and Winter. Six laboratory hours each week. Prerequisite, Industrial Engineering 411. Mr. Denman.

A continuation of Industrial Engineering 411, with laboratory practice on more intricate patterns.

413. Pattern-making and Foundry Practice. Three credit hours. One Quarter. Autumn and Winter. One recitation, six laboratory hours and two hours of preparation each week. Mr. Denman, Mr. Schneider.

A combination course of laboratory practice in pattern-making and founding.

415. Forging and Heat Treating. Three credit hours. One Quarter. Autumn and Winter. One recitation, six laboratory hours each week. Mr. Foust.

Laboratory practice begins with plain, simple forgings in iron and steel, progresses through power hammerwork, and finishes with heat treatment of iron and steel. Particular attention paid to faults developed through underheating or overheating in welding and insufficient energy in hammerblows.

417. Advanced Forging and Heat Treating. Two credit hours. One Quarter. Autumn and Winter. Six laboratory hours each week. Elective to Juniors and Seniors. Prerequisite, Industrial Engineering 415. Mr. Foust.

An advanced course with emphasis placed on the practical aspects of drop forging and heat treating.

418. Forging, Shop-Heat-Treating and Welding. Three credit hours. One Quarter. Autumn and Winter. One recitation, six laboratory hours and two hours of preparation each week. Mr. Foust and assistant.

Laboratory practice in forging, shop methods of heat treating, oxy-acetylene welding and electric arc welding.

419. Elementary Machine Work. Three credit hours. One Quarter. Autumn, Winter, Spring. One recitation, six laboratory hours each week. Prerequisite, Industrial Engineering 407 or concurrent, Industrial Engineering 418. Mr. Wright, Mr. Rickly, Mr. Morrison.

Laboratory practice on lathe, shaper, and drill press. Includes the fundamental operations on the lathe of straight, shoulder, and taper turning, facing, screw cutting, chuck and face plate work, boring, reaming, filing, and polishing. Elementary practice on the drill press and shaper.

421. Advanced Machine Work. Three credit hours. One Quarter. Autumn, Winter, Spring. One recitation, six laboratory hours each week. Prerequisite, Industrial Engineering 419 and 408 or 418. Mr. Knight, Mr. Wright, Mr. Rickly.

A continuation of Industrial Engineering 419, with more advanced practice on the lathe, planer, shaper, plain and universal milling machines, grinders, turret lathe, and drill press. Work organized and carried out on a production basis, with standard time, interchangeable parts, work limits, inspection, and assembly.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Engineering Organization. Four credit hours. Autumn Quarter. Four recitations and eight hours of preparation each week. Industrial Engineering, third year. Prerequisite, Industrial Engineering 419 or practical experience in an industrial plant. Mr. Younger.

The development of engineering organizations and a study of existing organizations. The differences in the functions of the jobbing and production shops. The co-ordination and relation of design engineering, research engineering, metallurgical engineering, production engineering, maintenance engineering, tool engineering, and safety engineering, all included under the title of Industrial Engineering.

602. The Laws of Engineering Management. Three credit hours. Winter Quarter. Three recitations and six hours of preparation each

week. Prerequisite, Industrial Engineering 419 or practical experience. Mr. Younger.

A consideration from an engineering standpoint of the fundamental laws of management.

623. Advanced Machine Work. Three credit hours. One Quarter. Autumn, Winter, Spring. One recitation, six laboratory hours each week. Prerequisite, Industrial Engineering 419 and 421. Mr. Knight, Mr. Wright, Mr. Rickly.

A course that gives practice corresponding to that of the tool and maintenance divisions of commercial shops. Tools, jigs, fixtures, development work, and repairs furnish the necessary exercises.

712. Principles of Industrial Engineering. Three credit hours. One Quarter. Winter and Spring. Three lectures and six hours of preparation each week. Elective to third or fourth year students. Prerequisite, Industrial Engineering 419, or practical experience in an industrial plant. Mr. Younger.

The development of engineering organizations. Jobbing and production shops. The coordination and organization of engineering functions. Work-analysis and routing. How to select mechanical equipment. Standardization, simplification, and waste-elimination.

Not open to students who have credit for Industrial Engineering 601.

ITALIAN

(See Romance Languages and Literatures)

JOURNALISM

Office, Journalism Building

PROFESSORS MYERS AND HOOPER, ASSISTANT PROFESSOR GETZLOE,
MR. O'BRIEN, MR. LUXON

401. News-Collecting and News-Writing. Five credit hours. One Quarter. Autumn, Winter, Spring. Three recitations and two laboratory periods each week on the Lantern. Not open to Freshmen. Curriculum for Teachers of Journalism, second year. Mr. Myers, Mr. Getzloe, Mr. Luxon.

Training of reporters by theory and practice. Laboratory work is done on the University daily paper, the Lantern, which is organized and operated as nearly like a city newspaper as possible.

402. News-Collecting and News-Writing. Five credit hours. One Quarter. Autumn, Winter, Spring. Three recitations and two laboratory periods each week on the Lantern. Curriculum for Teachers of Journalism, second year. Prerequisite, Journalism 401. Mr. Getzloe.

A continuation of Journalism 401.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Copyreading. Three credit hours. One Quarter. Autumn and Spring. Two recitations and one laboratory period each week on the

Lantern. Curriculum for Teachers of Journalism, second year. Prerequisite, Journalism 401-402. Mr. Myers.

Editing of copy, headline writing, re-writing, and general desk work.

502. Feature Writing. Three credit hours. One Quarter. Winter and Spring. Two recitations and one laboratory period each week on the Lantern. Curriculum for Teachers of Journalism, third year. Prerequisite, Journalism 401-402. Mr. Getzloe.

Instruction in and writing of special newspaper and magazine articles, together with investigation as to the market for such matter.

513. Newspaper Ethics and Principles. Three credit hours. One Quarter. Autumn and Spring. Three recitations each week. Curriculum for Teachers of Journalism, third year. Prerequisite, Journalism 401-402. Mr. Myers, Mr. Getzloe.

The rights and duties of the press, its morals, its standards, and its part in community, state, and national life.

517. Newspaper History and Comparative Journalism. Five credit hours. Winter Quarter. Five recitations each week. Curriculum for Teachers of Journalism, fourth year. Mr. Hooper.

Origin and growth of journalism in America, with consideration of the beginning and present state of journalism in other lands. Notable editors and publishers and mutual influence of the press and democracy.

518. Newspaper Organization. Five credit hours. One Quarter. Autumn and Spring. Five recitations each week. Curriculum for Teachers of Journalism, third year. Mr. Hooper.

Survey of the news, editorial, business, and mechanical departments with discussion of the opportunities and responsibilities of those in various posts. History of printing and a survey of the primitive and modern methods of printing and illustrating.

621. Editorial Writing. Three credit hours. One Quarter. Autumn and Spring. Three recitations each week. Curriculum for Teachers of Journalism, fourth year. Mr. Hooper, Mr. Getzloe.

Study of the purpose, form, style, and spirit of the editorial, as well as the responsibility of the writer to the newspaper, the community, and the profession. Consideration of current events, practice in news interpretation and other editorial writing, and study of editorial pages.

622. Public Opinion in the Making. Three credit hours. Winter Quarter. Three recitations each week. Curriculum for Teachers of Journalism, fourth year. Mr. Hooper.

Study of the newspaper's part, through news-selection and display, through editorial-writing, and in the dramatic, music, and literary departments. Current events and practice editorial-writing.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 716.

LATIN LANGUAGE AND LITERATURE

(See Classical Languages and Literature)

MANUAL ARTS

(See Practical Arts and Vocational Education)

MATHEMATICS

Offices, 307, 314, 315, 316, 317, 319 University Hall

PROFESSORS KUHN, RASOR, MORRIS, ARNOLD (EMERITUS), BLUMBERG, WEAVER, AND RADO, ASSOCIATE PROFESSOR MacDUFFEE, ASSISTANT PROFESSORS BAREIS, BEATTY, CARIS, RICKARD, BUMER, BAMFORTH AND LaPAZ, MISS JONES, MR. SINGLE, MR. THIELMAN, AND ASSISTANTS

The following sequences in mathematics are recommended:

I. For teachers of mathematics in secondary schools and junior colleges:

- (1) 421, 422, 423, or 431, 432, 433, followed by 441, 442.
- (2) 641, 601, 443
- (3) 621, 623, 684, 685
- (4) Principles of Education 735 (Teaching of Mathematics)

In this group, sequence (1) should be supplemented by two or more elections from each of the sets (2) and (3).

II. Those preparing to teach in colleges and universities or to work in the more advanced fields of mathematics, after completing 443 should advise with members of the department with reference to elections. It is recommended that all such students acquire a reading knowledge of French, German, and Italian as early as possible.

III. For business purposes:

421 or 432, 429, 435, 430

IV. For actuarial work:

First year: 421, 422, 423, or 431, 432, 433

Second year: 441, 442, 443

Third year: 429, 430, 691, 692, 693

Fourth year: 694, 696

V. For statistical work:

First year: 421, 422, 423, or 431, 432, 433

Second year: 441, 442, 443, 429

Third year: 601, 691, 611

Fourth year: 692, 696, 697

400. Sub-Freshman Algebra. Three credit hours. Autumn Quarter. Open to students who elect Mathematics 421 or 432 but do not maintain a satisfactory standing in that course. Prerequisite, one unit of entrance algebra and one unit of entrance geometry. All instructors. Some of the more advanced portions of entrance mathematics.

421. College Algebra. Five credit hours. One Quarter. Autumn and Winter. Five recitations each week. Prerequisite, one unit of entrance algebra and one unit of entrance geometry. All instructors.

Fundamental ideas and topics of college algebra. Designed, along with the allied courses, Mathematics 422, 429, and 435, to give students in the arts and sciences a conception of the character and possibilities of modern mathematics, especially in relation to its uses in other subjects.

422. Plane Trigonometry. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, one unit of entrance algebra and one unit of entrance geometry. All instructors.

Solution of right and oblique triangles, theory and use of logarithms, solution of trigonometric equations and identities, various applications to the arts and sciences.

423. Analytic Geometry. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 421 and 422. All instructors.

429. Mathematics of Finance. Five credit hours. One Quarter. Autumn and Winter. Five recitations each week. Prerequisite, Mathematics 421 or 432. Mr. Kuhn, Mr. Morris.

The principles of interest and discount with applications to annuities, sinking funds, capitalization, depreciation, valuation of bonds, building and loan associations.

430. Mathematics of Insurance. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 429. Mr. Bumer.

Computations of premiums and reserves for life annuities and insurance, for health and accident insurance; application of life annuities to the evaluation of life estates.

431. Plane Trigonometry. Five credit hours. One Quarter. Winter and Spring. Five recitations each week. Prerequisite, one and one-half units of entrance algebra and one unit of entrance geometry or Mathematics 400 and one unit of entrance geometry. All instructors.

432. College Algebra. Five credit hours. One Quarter. Autumn and Winter. Five recitations each week. Prerequisite, one and one-half units of entrance algebra and one unit of entrance geometry or Mathematics 400 and one unit of entrance geometry. All instructors.

433. Analytic Geometry. Five credit hours. One Quarter. Autumn and Spring. Five recitations each week. Prerequisite, Mathematics 431 and 432. All instructors.

435. Elementary Mathematical Statistics. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 421 or 432. Mr. Morris.

Representation of statistical data by difference, frequency and logarithmic curves; averages; statistical constants; total and partial correlation; index numbers; formulas used in mental measurement tests; the normal curve; applications in economics, biology, psychology, and educational research.

441-442-443. Calculus. Five credit hours. Three Quarters. 441, Autumn and Winter; 442, Winter and Spring; 443, Autumn and Spring. Five recitations each week. Prerequisite, Mathematics 423 or 433. All instructors.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Advanced Calculus. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Weaver. Selected topics from Wood's Advanced Calculus.

611. Differential Equations. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Kuhn.

***617. Introduction to Modern Mathematics.** Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, ten credit hours in mathematics beyond Mathematics 443, or permission of the instructor. Mr. Blumberg.

The principal aim of this course is not the imparting of comprehensive information but the initiation of the student, by means of lectures, collateral reading and problems,

* Not given in 1931-1932.

into various mathematical domains. The content will be selected from the following fields: graphical and numerical methods, projective geometry, theory of numbers, the mathematical continuum, mathematical foundation, point-sets, groups, probability, and relativity.

621. Advanced Euclidian Geometry. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Mathematics 442. Mr. Weaver.

Geometric constructions; points, lines and circles associated with a triangle; harmonic ranges and pencils; harmonic properties of the circle; radical axis; pole and polar with respect to a circle; inversion; symmedian points; Brocard points. This is chiefly a problem course in the field of plane geometry, and is of special value to teachers of the subject.

623. Projective Geometry. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 443. Miss Bareis.

Plücker line coordinates, duality, infinite elements, projection, double ratio, projective coordinates in one and two dimensions, projective transformations, collineations and involutions in one dimension, projective properties of conics.

625. Solid Analytic Geometry. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Mathematics 443. Given in 1931-1932 and thereafter in alternate years. Miss Bareis.

Systems of coordinates; planes and lines; types of surfaces; quadric surfaces; duality.

641. Elementary Theory of Equations. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Kuhn.

Construction with ruler and compasses, numerical equations, determinants, symmetric functions. Text: Dickson's First Course in the Theory of Equations.

661. Vector Analysis. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 601 and Physics 433, or the equivalent. Mr. Bumer.

Vector and scalar algebra and geometry, differentiation and differential operators, applications to electrical theory and to mechanics, dynamics, and hydro-dynamics.

†671. Introduction to the Theory of Relativity. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Mathematics 661.

This course will be prefaced by a brief review of those parts of the classical theories of dynamics and physics which are necessary to an understanding of the special theory of relativity, its applications, and the elementary aspects of the general theory of relativity.

***684. Materials and Concepts of Elementary Mathematics.** Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Arnold.

A critical review of the selection of the materials of secondary mathematics—the history of the development of this material and its underlying concepts. Systems of axioms for algebra; for geometry; the axiom of parallels. The Non-Euclidian Geometries. Constructions with ruler and compass. Variables, limits, number, infinity, transcendence.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

***685. The History of Mathematics.** Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Arnold.

A survey of the development of elementary and secondary mathematics in ancient, medieval, and modern times, including a sketch of the history and teaching of mathematics in the United States.

***691. Probability.** Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Mathematics 443. Given in alternate years. Mr. Morris.

The first half of the course will be devoted to the development of the theory of probability from the standpoint of permutations, combinations, choice and chance; the second half to a formal development of the subject as given by Coolidge in "Introduction to Probability."

692. Finite Differences. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Mathematics 443. Mr. Bumer.

An introduction to finite differences; development of the more important methods of interpolation and summation.

696. Mathematical Statistics. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Mathematics 691. Mr. Morris.

Derivation of statistical formulas by use of the theory of probability; least squares and their application to observational equations; curve fitting.

697. Statistical Methods of Forecasting. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Mathematics 696. Mr. Morris.

The application of the theory of probability to forecasting; weighting of biometric series by least squares; seasonal variations; curves of trend.

701. Introduction to Analysis I. Three credit hours. Autumn Quarter. Three lectures each week. Mr. Radó.

Irrational numbers; fundamental notions of functions of a real variable; differential coefficients; integrals of Riemann and of Stieltjes; infinite series; functions of several variables; theorems of Green, Stokes, etc., applications.

702. Introduction to Analysis II. Three credit hours. Winter Quarter. Three lectures each week. Mr. Radó.

A continuation of Mathematics 701.

703. Introduction to Analysis III. Three credit hours. Spring Quarter. Three lectures each week. Mr. Radó.

A continuation of Mathematics 702.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 735.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

800. Seminary in Mathematics.

801. Reading and Research.

†804. Methods and Problems in the Theory of Real Functions.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

- *805. Functions of a Real Variable.
- *806. Theory of Functions of a Complex Variable.
- 809. Infinite Series and Products.
- 812. Point-Sets.
- 813. Abstract Sets.
- 814. Methods of Analysis I.
- *815. Methods of Analysis II.
- *816. Calculus of Variations.
- *817. Partial Differential Equations.
- 818. Parametric Problems of the Calculus of Variations I.
- 819. Parametric Problems of the Calculus of Variations II.
- *822. Non-Euclidian Geometry.
- *825. Algebraic Geometry.
- *827. Differential Geometry.
- 828. Modern Theories in Ordinary Differential Equations I.
- 829. Modern Theories in Ordinary Differential Equations II.
- 830. Integral Equations.
- 841. Finite Groups.
- 850. Theory of Numbers.
- †851. Introduction to Higher Algebra.
- *852. Algebraic Invariants.
- *853. Differential Invariants.
- *854. Continuous Groups.
- 855. Algebraic Numbers.
- 856. Linear Algebras.
- *861. Fourier's Series and Spherical Harmonics.
- *862. Tensor Analysis.
- *865. Functional Operations I.
- *866. Functional Operations II.
- 871. Minimal Surfaces and the Problem of Plateau I.
- 872. Minimal Surfaces and the Problem of Plateau II.
- 873. Minimal Surfaces and the Problem of Plateau III.
- *891. Mathematical Theory of Statistics.

For description of graduate courses in this department see the Bulletin of the Graduate School.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

METEOROLOGY

(See Geology 420)

MILITARY SCIENCE AND TACTICS

Office, The Barracks

COLONEL TOWNSEND; MAJORS VANKIRK, RANDALL, FRENCH, AND SULLIVAN; CAPTAINS BARRY, WINFIELD, MINUS, FISHER, McCREARY, BRANSON, FORNEY, LONG, WHAYNE, AND ATKINSON, LIEUTENANTS ECKERT, DAVIS, WILLIAMS, MURPHY, MACK, KING, EATON, AND MIDDLETON; NON-COMMISSIONED OFFICERS OF INFANTRY, FIELD ARTILLERY, AND SIGNAL CORPS

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curricula. The Board of Trustees therefore requires all male students, both special and regular, unless excused by the Department of Military Science and Tactics, to receive military instruction during the first two years in Infantry, Field Artillery, or Signal Corps, the choice at the option of the student.

The Reserve Officers' Training Corps was established under the National Defense Act of June 3, 1916, and June 4, 1920, the required two years' work being included in its four-year course, the third and fourth years being elective. Instruction is given in Infantry, Field Artillery, Signal Corps, Veterinary Corps, Dental Corps, and Medical Corps Units. Twenty-three commissioned officers, and thirty enlisted men of the Regular Army are detailed as instructors.

Uniform is furnished Freshmen upon deposit of approximately \$27.00 being made with the Contractor. The University has adopted its own style of uniform, which is required to last two years. Last year the Basic Course students were paid commutation of uniforms amounting to \$10.00 each for the academic year. This allowance is pro-rated monthly to students who do not remain in attendance during the entire academic year, but is paid by the Bursar in whole or in part only at the close of the Spring Quarter of each academic year.

Students taking Advanced Courses in Military Science receive commutation of rations which last year amounted to thirty cents a day and is payable quarterly, and commutation of uniform which last year amounted to \$30.00 for the First Year Advanced men (Juniors), and to \$10.00 for the Second Year Advanced men (Seniors).

The total credit in this department allowed toward a degree is 18 Quarter-hours, exclusive of Infantry 401, 402, 403, 404, 405, 406, Field Artillery 421, 422, 423, 424, 425, 426, or Signal Corps 441, 442, 443, 444, 445, 446, required of all male students in the first and second years, for which 6 credit hours is granted.

INFANTRY

401. Basic Infantry. One credit hour. Autumn Quarter. Three recitations or three practical periods each week. Infantry instructors. Drill and command. Rifle marksmanship.

402. Basic Infantry. One credit hour. Winter Quarter. Three recitations each week. Infantry instructors.

Drill and command. Scouting and patrolling. Military courtesy. First aid and military hygiene. National Defense Act.

403. Basic Infantry. One credit hour. Spring Quarter. Three practical periods each week. Infantry instructors.

Drill and command.

404. Basic Infantry. One credit hour. Autumn Quarter. Three recitations or three practical periods each week. Prerequisite, Military Science 401, 402, 403. Infantry instructors.

Drill and command. Scouting and patrolling.

405. Basic Infantry. One credit hour. Winter Quarter. Three recitations or three practical periods each week. Infantry instructors. Musketry. Automatic rifle. Combat principles.

406. Basic Infantry. One credit hour. Spring Quarter. Three practical periods each week. Infantry instructors. Drill and command. Combat principles.

507. Advanced Infantry. Three credit hours. Autumn Quarter. Three one-hour periods and one two-hour period each week. Elective. Prerequisite, Military Science 401, 402, 403, 404, 405, 406. Infantry instructors.

Drill and command. Map reading and military sketching. Infantry weapons.

508. Advanced Infantry. Three credit hours. Winter Quarter. Three one-hour periods and one two-hour period each week. Elective. Infantry instructors.

Machine guns. Infantry weapons.

509. Advanced Infantry. Three credit hours. Spring Quarter. Three one-hour periods and one two-hour period each week. Elective. Infantry instructors.

Drill and command. Combat principles.

510. Advanced Infantry. Three credit hours. Autumn Quarter. Three one-hour periods and one two-hour period each week. Elective. Prerequisite, Military Science 507, 508, 509. Infantry instructors.

Drill and command. Military law. Combat principles.

511. Advanced Infantry. Three credit hours. Winter Quarter. Three one-hour periods and one two-hour period each week. Elective. Infantry instructors.

Combat principles. Military history. Army administration.

512. Advanced Infantry. Three credit hours. Spring Quarter. Three one-hour periods and one two-hour period each week. Elective. Infantry instructors.

Combat principles. Drill and command. Field engineering.

FIELD ARTILLERY

421. Basic Field Artillery. One credit hour. Autumn Quarter. Three practical periods each week. Field Artillery instructors.

The National Defense Act and the R. O. T. C. Military courtesy and discipline. Dismounted instruction. Service of the piece. Field Artillery materiel. Gunners' instruction (Second Class Gunner).

422. Basic Field Artillery. One credit hour. Winter Quarter. Three lectures each week. Field Artillery instructors.

Basic subjects of military science. Gunners' instruction (First Class Gunner).

423. Basic Field Artillery. One credit hour. Spring Quarter. Three practical periods each week. Field Artillery instructors.

Ceremonies. The firing battery. Military hygiene and first aid. Individual equipment.

424. Basic Field Artillery. One credit hour. Autumn Quarter. Three practical periods each week. Prerequisite, Military Science 421, 422, 423. Field Artillery instructors.

Equitation. Map reading and military sketching.

425. Basic Field Artillery. One credit hour. Winter Quarter. Three lectures each week. Field Artillery instructors.

Field Artillery communications. The telephone and switchboard. Elementary gunnery. Fire control instruments. Gunners' Examinations (Expert).

426. Basic Field Artillery. One credit hour. Spring Quarter. Three practical periods each week. Field Artillery instructors.

Ceremonies. The field artillery driver. Maneuvers limbered. Reconnaissance and occupation of position. Care of animals.

527. Advanced Field Artillery. Three credit hours. Autumn Quarter. One one-hour and two two-hour practical periods each week. Elective. Prerequisite, Military Science 424, 425, 426. Field Artillery instructors.

Command. Advanced equitation and horsemanship. Preparation of fire. Pistol marksmanship. Gunners' Examination (Expert).

528. Advanced Field Artillery. Three credit hours. Winter Quarter. Five lectures each week. Elective. Field Artillery instructors.

Gunnery. Battery administration and supply. Communications for field artillery. Liaison; field fortifications.

529. Advanced Field Artillery. Three credit hours. Spring Quarter. Five practical periods each week. Elective. Field Artillery instructors.

Ceremonies. Advanced equitation. Maneuvers limbered. Terrestrial observation and conduct of fire. Reconnaissance and occupation of position.

530. Advanced Field Artillery. Three credit hours. Autumn Quarter. Five practical periods each week. Elective. Prerequisite, Military Science 527, 528, 529. Field Artillery instructors.

Command. Advanced equitation and horsemanship. Military law and Officers' Reserve Corps regulations. Military history and policy.

531. Advanced Field Artillery. Three credit hours. Winter Quarter. Five lectures each week. Elective. Field Artillery instructors.

Military history and policy. Command. Organization, tactics, and tactical employment of field artillery.

532. Advanced Field Artillery. Three credit hours. Spring Quarter. Five practical periods each week. Elective. Field Artillery instructors.

Ceremonies. Advanced equitation and horsemanship. Maneuvers limbered. Reconnaissance and occupation of position.

SIGNAL CORPS

The Signal Corps Unit is open to those students regularly enrolled in either the curriculum in Electrical Engineering or in Engineering Physics. Selected amateur radio operators may also pursue the Signal Corps courses. The Signal Corps course begins with the Freshman year.

441. Basic Signal Corps. One credit hour. Autumn Quarter. One recitation and two practical periods each week. Signal Corps instructors. Instruction in command and leadership.

442. Basic Signal Corps. One credit hour. Winter Quarter. Three recitations each week. Signal Corps instructors.

Telegraphy. Code practice. Tactical radio procedure. Military courtesy. Military hygiene and first aid.

443. Basic Signal Corps. One credit hour. Spring Quarter. Two recitations and one practical period each week. Signal Corps instructors.

Telephony. Signal Corps telephones and switchboards. Army organization.

444. Basic Signal Corps. One credit hour. Autumn Quarter. One recitation and two practical periods each week. Prerequisite, Military Science 401-402-403 or 421-422-423 or 441-442-443. Signal Corps instructors.

Instruction in command and leadership.

445. Basic Signal Corps. One credit hour. Winter Quarter. Three recitations each week. Signal Corps instructors.

Telegraphy. Code practice. Tactical radio procedure. Pistol and personal equipment.

446. Basic Signal Corps. One credit hour. Spring Quarter. Three recitations each week. Signal Corps instructors.

Radio sets. Operation and general theory of field radio sets. Telephony. Military wire nets. Tests of telephone lines and switchboards.

547. Advanced Signal Corps. Three credit hours. Autumn Quarter. Three recitations and one period of practical work each week. Elective. Prerequisite, Military Science 444-445-446. Signal Corps instructors.

Military sketching and map reading. Message center operation. Codes and ciphers. Tactical principles and principles of signal communications.

548. Advanced Signal Corps. Three credit hours. Winter Quarter. Five lectures each week. Elective. Signal Corps instructors.

Alternating current circuits.

Not open to those students taking Electrical Engineering or Engineering Physics.

549. Advanced Signal Corps. Three credit hours. Spring Quarter. Four lectures and one practical period each week. Elective. Signal Corps instructors.

Medium and high frequency currents.

Not open to those students taking Electrical Engineering or Engineering Physics.

550. Advanced Signal Corps. Three credit hours. Autumn Quarter. Three lectures each week. Elective. Prerequisite, Military Science 548 and 549. Signal Corps instructors.

Communication engineering (telephone).

Not open to those students taking Electrical Engineering or Engineering Physics.

551. Advanced Signal Corps. Three credit hours. Winter Quarter. Three recitations each week. Elective. Prerequisite, Military Science 547. Signal Corps instructors.

Signal Corps tactics. Military law and Officers' Reserve Corps regulations.

552. Advanced Signal Corps. Three credit hours. Winter Quarter. Four lectures each week. Elective. Prerequisite, Military Science 548 and 549. Signal Corps instructors.

Communication engineering (radio).

Not open to those students taking Electrical Engineering or Engineering Physics.

553. Advanced Signal Corps. Three credit hours. Spring Quarter. Three recitations and one period of practical work each week. Elective. Prerequisite, Military Science 547. Signal Corps instructors.

Military history and policy of the United States. Administration and supply. Field engineering.

SUMMER CAMPS

As a part of the instruction of the Reserve Officers' Training Corps, summer camps are conducted for the Advanced Course students. The camps for this Corps Area are held for the Infantry and Field Artillery at Camp Knox, Ky., thirty-one miles from Louisville; for the Signal Corps at Fort Sheridan, Ill., twenty miles north of Chicago, and for the Medical, Dental, and Veterinary Corps at Carlisle Barracks, Pa.

These camps are of six weeks' duration and the work is mostly practical. In addition to military work, field sports and competitions are conducted. The training for Infantry includes firing on the target range with service rifles and using ball ammunition in combat exercises. The training for Field Artillery includes firing field guns with service ammunition. Signal Corps instruction includes the establishment and operation of radio stations in the field and field problems with the Infantry and Field Artillery involving application of training and communication engineering.

The Government furnishes transportation to and from the camps. While in camp, clothing, subsistence, medical attention, and entertainment are provided.

The students attending advanced course camp receive, in addition to the above, a salary of seventy cents per day.

The development of leadership and discipline are primary objects of these camps.

Advanced Course students of the Infantry, Field Artillery, and Signal Corps Units normally attend the Advanced Course Camp in the summer following the Junior Year.

Students enrolled in the Freshman and Sophomore classes of the R. O. T. C. who attend a Citizens' Military Training Camp and successfully complete the course of instruction thereat are granted two hours University credit. This credit is not accepted in lieu of any of the required courses in Military Science.

MUSIC

Offices, 1, 2, 3, and 4 Page Hall

PROFESSORS HUGHES, WALL, AND WEIGEL, ASSOCIATE PROFESSORS LEEDER AND WILSON, ASSISTANT PROFESSORS JONES, THOMAS, AND SLAWSON, MISS HARDY, MISS WAY, MISS DIERKER, AND ASSISTANTS

430. History and Appreciation I. Four credit hours. Winter Quarter. Four lectures each week. Music Supervision, and Instrumental Music, second year; Voice, third year. Prerequisite, Sophomore standing. Mr. Hughes.

An introduction to the appreciation of music. Study of the factors involved in intelligent listening with special reference to musical form. A brief survey of the history of the art.

Not open to students who have credit for Music 301 or 302.

431. History and Appreciation II. Four credit hours. Spring Quarter. Four lectures each week. Music Supervision, and Instrumental Music, second year; Voice, third year. Prerequisite, Music 430. Mr. Hughes.

Style, form, and content of compositions of the polyphonic and classical periods.

442. School Music, I. Three credit hours. Autumn Quarter. Three recitations each week. Music Supervision, second year. Prerequisite, three Quarters of Sight Singing and Ear Training or its equivalent. Mr. Leeder.

Music in the primary grades. Material and methods of presentation for the supervisor of music. Recitation and practice teaching in the classroom.

443. School Music, II. Three credit hours. Spring Quarter. Three recitations each week. Music Supervision, second year. Prerequisite, Music 442. Mr. Leeder.

Continuation of Music 442. Material and methods for the intermediate grades.

447. The Teaching of Elementary School Music. Two credit hours. Autumn Quarter. Five recitations each week. Required in the curriculum for elementary teachers, third year. No prerequisite. Miss Slawson, Miss Dierker.

School music for the elementary teacher or principal. Aims of music education through discussion and study of standard materials to be used under the direction of a supervisor.

448. The Teaching of Elementary School Music. Three credit hours. Spring Quarter. Five recitations each week. Required in the curriculum for elementary teachers, third year. Prerequisite, Music 447. Miss Dierker, Miss Slawson.

Continuation of Music 447.

449. Teaching of Music Appreciation in the Elementary Grades. Two credit hours. Winter Quarter. Two recitations each week. Music Supervision, third year. Prerequisite, Music 442 or 443. Miss Dierker.

A study of materials and methods of presentation used in developing an appreciation of music in children.

450. Song Literature for Elementary Grades. Two credit hours. Winter Quarter. Two recitations each week. Music Supervision, third year. Prerequisite, Music 442 or 443. Miss Dierker.

A course designed to familiarize the student with the best songs for children and to develop his skill in interpretation.

459. Conducting, I. One credit hour. Winter Quarter. Three drill periods each week. Music Supervision, Instrumental Music, and Voice, second year. Prerequisite, Music 479. Mr. Wilson.

Practice in conducting the smaller forms of vocal music. The technique of the baton. The mechanical expression of various rhythms.

Not open to students who have credit for Music 365.

460. Harmony. Three credit hours. Autumn Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, second year. Prerequisite, three Quarters of Sight Singing and Ear Training or its equivalent. Miss Jones.

Review of scales and a thorough drill in the reading and hearing of intervals. Introduction of primary triads, the dominant seventh chord and simple modulations. Keyboard practice.

Not open to students who have credit for Music 408 and 409 or 351 and 352.

461. Harmony. Three credit hours. Winter Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, second year. Prerequisite, Music 460. Miss Jones.

Further practice in simple modulation. Secondary seventh chords. The dominant ninth chord. Modulation to more remote keys.

Continuation of Music 460.

462. Harmony. Three credit hours. Spring Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, second year. Prerequisite, Music 461. Miss Jones.

Altered chords. Modulation to remote keys.

Continuation of Music 461.

463. Advanced Harmony. Three credit hours. Autumn Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, third year. Prerequisite, Music 462. Miss Jones.

Non-harmonic tones. Advanced problems in chromatics and modulation.

465. Harmonic Analysis. Three credit hours. Winter Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, third year. Prerequisite, Music 463. Miss Jones.

Analysis and discussion of chords and non-harmonic tones.

468. Form. Three credit hours. Spring Quarter. Three recitations each week. Music Supervision, Instrumental Music, and Voice, third year. Prerequisite, Music 463. Miss Jones.

Continuation of the study of form begun in Music 430. More detailed examination into the elements and development of form.

***472. Counterpoint.** Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, Music 462. Miss Jones.

Simple counterpoint in two and three parts.

* Not given in 1931-1932.

***474. Counterpoint.** Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Music 472. Miss Jones.

Four part counterpoint. Florid counterpoint. Combination of species.
Continuation of Music 472.

476. Elementary Sight Singing and Ear Training. Three credit hours. Autumn Quarter. One lecture and five practice periods each week. Music Supervision, first year, except in the case of students accepted for Music 480; Instrumental Music, first year, alternative with Music 480; Voice, first year. Miss Slawson, Miss Dierker.

Elements of notation. Drill in sight singing in major and minor modes. Ear training upon intervals in scale relation, triads, their inversion, and the dominant seventh. Melodic dictation requiring recognition of intervals and simple rhythms.

Not open to students who have credit for Music 370 and 371.

478. Elementary Sight Singing and Ear Training. Three credit hours. Winter Quarter. One lecture and five practice periods each week. Music Supervision, first year, except in the case of students accepted for Music 480; Instrumental Music, first year, alternative with Music 482; Voice, first year. Prerequisite, Music 476. Miss Slawson, Miss Dierker.

Continuation of Music 476.

479. Elementary Sight Singing and Ear Training. Three credit hours. Spring Quarter. One lecture and five practice periods each week. Music Supervision, first year, except in the case of students accepted for Music 480; Instrumental Music, first year, alternative with Music 483; Voice, first year. Prerequisite, Music 478. Miss Slawson, Miss Dierker.

Continuation of Music 478.

480. Elementary Sight Singing and Ear Training. Four credit hours. Autumn Quarter. One lecture and five recitations each week. Music Supervision, and Instrumental Music, first year, for students excused from Music 476. Prerequisite, consent of the instructor. Miss Slawson.

Elements of notation. Drill in sight singing and dictation. This course is designed for students with a musical background superior to the average freshman student. The course will be accepted in place of Music 476, 478, and 479, and work will be assigned to cover these three courses.

482. Intermediate Sight Singing and Ear Training. Three credit hours. One Quarter. Autumn and Winter. One lecture and four practice periods each week. Music Supervision and Instrumental Music, first or second year, as assigned. Voice, second year. Prerequisite, Music 479 or 480 and Music 462. Miss Slawson.

Sight singing of one-, two-, three-, and four-part music. Reading of choruses and selections from operas and oratorios. Melodic dictation including simple modulations. Simple two-, three-, and four-part dictation based on the three primary harmonies.

483. Intermediate Sight Singing and Ear Training. Three credit hours. One Quarter. Winter and Spring. One lecture and four practice periods each week. Music Supervision, and Instrumental Music, first or second year, as assigned. Voice, second year. Prerequisite, Music 482. Miss Slawson.

Continuation of Music 482.

* Not given in 1931-1932.

485. Advanced Sight Singing and Ear Training. One credit hour. Autumn Quarter. Two practice periods each week. Music Supervision, third year. Prerequisite, Music 483. Miss Slawson.

Sight reading of difficult choruses, motets, madrigals, etc. Ear training and melodic dictation requiring recognition and reproduction of primary, secondary, and chromatic harmonies.

486. Advanced Sight Singing and Ear Training. One credit hour. One Quarter. Winter and Spring. Two practice periods each week. Music Supervision, third year. Prerequisite, Music 485. Miss Slawson.

Continuation of Music 485.

NOTE: Courses in piano and voice are open only to students majoring or minoring in music.

501-502-503. Applied Music. One or two credit hours. Autumn, Winter, and Spring Quarters. Four class lessons each week. Required of all Music students, first year, who have not already advanced in either or both the following branches to a degree of proficiency found by a faculty committee to be adequate to the needs of music supervision. Mr. Wilson, Mr. Wall, Miss Way.

Piano or voice or both. Applied music as offered in these courses presupposes some previous elementary training, for which college credit cannot be allowed. Students who have had no instruction in piano should consult the department before registering for any applied music.

504-505-506. Applied Music. One or two credit hours. Autumn, Winter, and Spring Quarters. Two or four class lessons each week. Required of Music students, first or second year, except those of a satisfactory degree of advancement in these subjects. Mr. Wilson, Mr. Wall, Miss Way.

Students pursuing the general curriculum in school music supervision will receive instruction in violin and either voice or piano receiving two hours credit; those following the curriculum for supervisors of instrumental music will receive instruction in their first minor instrument, earning one hour credit. In both cases the choice of branches undertaken will be made with the consent of the department.

507-508-509. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons each week. Required of Music students, third year, except those of a satisfactory degree of advancement in these subjects. Mr. Wilson, Mr. Wall, Miss Way, Miss Hardy.

Students pursuing the general curriculum in school music supervision will receive instruction in clarinet under Music 508 and 509, those following the curriculum for supervisors of instrumental music will enroll for all three courses continuing the study of their first minor instrument.

510-511-512. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons each week. Required of Music students, fourth year, except those of a satisfactory degree of advancement in these subjects. Mr. Wilson.

Students pursuing the general curriculum in school music supervision will receive instruction in cornet in courses 510-511 and in instruments of percussion in 512; students following the curriculum for supervisors of instrumental music will enroll in all three courses for the study of their second minor instrument; choice of the instrument will be with the consent of the department.

520-521-522. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons each week. Prerequisite, consent of the department. Mr. Wall, Miss Way.

Advanced study of singing. Designed for students majoring or minoring in music who require work in this branch further than that supplied by Music 503 or 506.

525-526-527. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons each week. Voice, second year. Prerequisite, consent of the department. Miss Jones, Miss Hardy.

Advanced study of piano. Designed for students majoring or minoring in music who require work in this branch further than that supplied by Music 503 or 506.

530-531-532. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons or one private lesson each week. Instrumental Music, second year. Prerequisite, Sophomore standing and the consent of the department. Mr. Weigel.

Study of orchestra or band instruments.

Students following the curriculum for supervisors of instrumental music will enroll in these courses of instruction in their major instrument and continue in the third and fourth years with Music 533-534-535 and 536-537-538.

This course and similar courses in the third and fourth years are designed for the technical advancement of student members of the University Bands and the University Orchestra; instruction is given only with the consent of the director of these groups and upon the instrument recommended by him.

533-534-535. Applied Music. One credit hour. Autumn, Winter, and Spring Quarters. Two class lessons or one private lesson each week. Instrumental Music, third year. Prerequisite, Junior standing and the consent of the department. Mr. Weigel.

Continuation of Music 532.

536-537-538. Applied Music. One credit hour. Autumn, Winter and Spring Quarters. Two class lessons or one private lesson each week. Instrumental Music, fourth year. Prerequisite, Senior standing and the consent of the department. Mr. Weigel.

Continuation of Music 535.

540-541-542. Applied Music. Two credit hours. Autumn, Winter, and Spring Quarters. Two or more individual conferences each week. Voice, second year. Prerequisite, Music 503 and consent of the instructor. Mr. Wall.

Advanced study of the major interest in performance. For the year 1931-1932 this course will be limited to the study of singing.

545-546-547. Applied Music. Three credit hours. Autumn, Winter, and Spring Quarters. Two or more individual conferences each week. Voice, third year. Prerequisite, Music 545 and consent of the instructor. Mr. Wall.

Continuation of Music 542 with the same limitation of field.

550-551-552. Applied Music. Four credit hours. Autumn, Winter, and Spring Quarters. Two or more individual conferences each week. Voice, fourth year. Credit for all three Quarters will be withheld until a satisfactory public recital has been given. Prerequisite, Music 547 and consent of the instructor. Mr. Wall.

Continuation of Music 547 with the same limitation of field.

555. Small Ensembles. One credit hour. Autumn, Winter, and Spring Quarters. Two rehearsals each week. Prerequisite, permission of the director. Mr. Weigel.

Preparation and presentation of music best suited to small groups and to solo performance upon a major instrument with or without orchestral or band accompaniment. Designed as preparation for radio, recital, and other university programs.

Credit for Music 555 will be accepted as discharging any part of the requirement Music 530 to 538 inclusive for supervisors of instrumental music.

CAMPUS MUSIC GROUPS

Participation in University music activities is open to all students in the University. No student will be permitted to enroll for credit in more than one of the following courses—Music A, B, C, and D—during any particular Quarter unless he is majoring in Music. No student will be allowed credit in excess of six hours in Music A, B, C, and D, except in the case of students majoring in Music who may obtain not to exceed twelve credit hours in these courses. Students wishing to enroll in any instrumental group should observe the following:

Tryouts for Orchestras and Bands

All upperclassmen attending the University for the first time and all Freshmen will report for examination to Professor Weigel, director of instrumental groups, and secure his permission before scheduling Music B, C, or D (See Freshman Week Bulletin for schedule of tryouts).

Regimental Bands

Freshmen and Sophomores who are assigned by Professor Weigel to Regimental Bands following tryouts, should schedule Regimental Bands as Military Science 401, 402, 403 in the three Quarters of the Freshman year and as Military Science 404, 405, 406 in the three Quarters of the Sophomore year.

Only Juniors and Seniors may schedule Music C. This course represents volunteer military service and may only be taken for credit after six Quarter hour credits have been earned in military science.

Students Majoring in Music

(a) All students who are majoring in music and who play a *stringed* instrument, if they are Freshmen, or students above Freshman standing attending the University for the first time, will schedule Music B for Monday, Wednesday, and Friday at one o'clock and Wednesday and Friday at four o'clock.

(b) All students who are majoring in music and who play *brass* or *wood-wind* instruments, if they are Freshmen, or students above Freshman standing attending the University for the first time, will schedule Music D Monday, Wednesday, and Friday at three o'clock and Regimental Bands (Military Science 401 to 406 inclusive—Band) Monday, Wednesday, and Friday at four o'clock.

***Music A. University Chorus.** One credit hour. Autumn, Winter, and Spring Quarters. Two rehearsals each week. Mr. Wall.

Open to students in any department of the University. Acceptance for the course is subject to the written approval of the director after individual conference.

***Music B. University Orchestra.** One credit hour. Autumn, Winter, and Spring Quarters. Three rehearsals each week. Mr. Weigel.

Open to students in any department of the University. Acceptance for the course is subject to the written approval of the director after individual conference.

***Music C. The University Marching Bands.** One credit hour. Autumn, Winter, and Spring Quarters. Three or more rehearsal and drill

* All students majoring in music are required to enroll in either Music A, B, C, or D during each Quarter of residence. Choice of these groups will be with the written approval of the department and the group director.

periods each week. Credit in required first-year and second-year Military Science which has been earned by service in the Military Band will be considered as equivalent to Music C. Open only to Juniors and Seniors who have earned six hours credit in Military Science. Membership by permission of the director. Mr. Weigel and assistants.

The University Band operates as two or more military units. A combination of these units, or selected men from each, serves as a massed band for athletic events and military revues.

***Music D. The University Band.** One credit hour. Autumn, Winter and Spring Quarters. Three rehearsals each week. Prerequisite, consent of the director. Mr. Weigel.

The Concert Band is a selected group of limited membership devoted to the preparation and performance of the best band literature. The group gives public concerts and supplies music for University functions. Membership is open to students of any year or department but is limited to performers of superior ability.

Music E. Women's Glee Club. No credit. Autumn, Winter, and Spring Quarters. Miss Slawson.

Membership in this group is open to all women students in the University. Examinations are held at stated periods and vacancies in the club filled with the best available voices. The majority of elections take place in the Autumn Quarter.

Music F. Departmental Orchestra. One credit hour. Autumn, Winter, and Spring Quarters. Two rehearsals each week. Admission to the course by approval of the director. Mr. Wilson.

Training in orchestral discipline, sight reading and interpretation. Designed for those who cannot be accepted for one of the major instrumental groups.

Except in the case of those enrolled in Music B, C, or D, this course is required of all students majoring in instrumental music and of all Juniors and Seniors in the general curriculum for music supervision.

Music G. Men's Glee Club. No credit. Autumn, Winter, and Spring Quarters. Mr. Wall.

Membership in this group is open to all men students in the University. Examinations are held at stated periods and vacancies in the club filled with the best available voices. The majority of elections take place in the Autumn Quarter.

NOTE: *Observation and Participation.* To meet the requirement in observation and participation, students should register for Principles of Education 410, 4 hours, in the Spring Quarter of the third year; the work of the course will continue during this Quarter and the Autumn Quarter of the fourth year.

This course will consist in observation and participation in the management of a typical classroom, and in assisting the critic in all phases of school-room problems.

Supervised Teaching. To meet the requirement in supervised teaching, students should register for Principles of Education 440, 7 hours, in the Autumn Quarter of the fourth year; the work of the course will continue during this Quarter and the Spring Quarter of the fourth year.

The course will include student teaching in all grades of the school system; lesson plans for the grade teacher; teacher rating; direct contact with supervisory problems.

* All students majoring in music are required to enroll in either Music A, B, C, or D during each Quarter of residence. Choice of these groups will be with the written approval of the department and the group director.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

NOTE: Courses in piano and voice are open only to students majoring or minoring in music.

601. The Romanticists. Four credit hours. Autumn Quarter. Four lectures each week. Required in all the curricula in Music, fourth year. Prerequisite, permission of the instructor. Mr. Hughes.

The music of the romantic period in Germany and France.

602. Wagner and the Music Drama. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, permission of the instructor. Mr. Hughes.

Study of the works of Wagner and his contributions to the opera.

603. Modern Music. Four credit hours. Winter Quarter. Four lectures each week. Required in all the curricula in Music, fourth year. Prerequisite, permission of the instructor. Mr. Hughes.

A brief survey of modern developments with special reference to the composers of France and Russia.

605. History of Choral Music. Three credit hours. Spring Quarter. Three lectures each week. Voice, fourth year. Prerequisite, permission of the instructor. Mr. Hughes.

Choral composers and literature with special consideration of the sixteenth and seventeenth centuries.

Not open to students who have credit for Music 305 and 306.

610. Music in the Junior High School. Three credit hours. Autumn Quarter. Three lectures each week. Music Supervision, and Instrumental Music, third year. Prerequisite, Music 442 and 443. Mr. Leeder.

Materials, problem discussions, junior high school organizations. A course for supervisors of music or for special music teachers in the junior high school.

611. High School Music. Three credit hours. Spring Quarter. Three lectures each week. Music Supervision, and Instrumental Music, third year. Prerequisite, Music 442 and 443. Mr. Leeder.

Materials for musical organizations in the high school. Teaching of the theory of music in the high school. A course for supervisors of music or for special teachers of music in high schools.

612. Supervision of Music in Elementary Schools. Three credit hours. Autumn Quarter. Open to Seniors or graduate students majoring in music. Other persons of maturity and experience may elect this course by permission of the instructor. Mr. Leeder.

A study of the specific problems of music supervision with special attention given to curriculum construction.

613. Supervision of Music in Secondary Schools. Three credit hours. Spring Quarter. Open to Seniors or graduate students majoring in music. Other persons of maturity and experience may elect this course by permission of the instructor. Mr. Leeder.

This course is planned to meet the needs of Supervisors of Music in the Senior and Junior High Schools. Special problems in the various phases of school music will be considered.

614-615-616. Methods of Class Instruction in Piano. One credit hour. Autumn, Winter, and Spring Quarters. One discussion and three observation periods each week. Credit for 614 and 615 will be withheld until 616 is completed. Prerequisite, Junior standing and the consent of the instructor. Mr. Wilson.

Examination of current methods and materials. Observation and practice of class instruction in piano with special reference to its use in the public schools.

617-618-619. Methods of Class Instruction in Voice. One credit hour. Autumn, Winter, and Spring Quarters. Three recitations each week. Credit for 617 and 618 will be withheld until 619 is completed. Voice, fourth year. Prerequisite, Junior standing and the consent of the instructor. Mr. Wall.

Organization of groups. Selection of materials. Class methods of instruction applicable to students in secondary schools. Observation and practice.

***620. Composition.** Three credit hours. Autumn Quarter. Three conferences each week. Prerequisite, permission of the instructor. Miss Jones.

Original composition, beginning with the simple song forms and advancing according to the ability of the class.

***621. Composition.** Three credit hours. Winter Quarter. Two conferences each week. Prerequisite, Music 620. Miss Jones.

Continuation of Music 620.

***622. Composition.** Three credit hours. Spring Quarter. Two conferences each week. Prerequisite, Music 621. Miss Jones.

Continuation of Music 621.

630. Instrumentation. Three credit hours. Autumn Quarter. Three recitations each week. Music Supervision and Instrumental Music, fourth year. Prerequisite, Music 462 and an amount of applied music satisfactory to the instructor. Mr. Wilson.

Scoring for brass or wood-wind instruments in small combinations, and for full band.

632. Instrumentation. Three credit hours. Winter Quarter. Three recitations each week. Music Supervision and Instrumental Music, fourth year. Prerequisite, Music 630. Mr. Wilson.

Scoring for stringed instruments, for strings in combination with other instruments, and for full orchestra.

635. Instrumentation. Three credit hours. Spring Quarter. Three recitations each week. Instrumental Music, fourth year. Prerequisite, Music 632. Mr. Wilson.

Scoring in modern music, reduction, comparative study of scores.

642. Organization of the School Band and Orchestra: Conducting II. Two credit hours. Winter Quarter. Three meetings each week. Music Supervision, fourth year; Instrumental Music, third year. Prerequisite, Music 459 and 630. Mr. Weigel.

Lectures, demonstration, and practice in conducting the larger vocal and instrumental forms. Study of the technical and artistic aspects of conducting. Skill in manipulating the baton. Reading and analysis of scores. Organization of the orchestra and band. Rehearsal procedure and routine.

* Not given in 1931-1932.

643. Band and Orchestra Materials: Advanced Conducting III. Three credit hours. Spring Quarter. Three lectures and drill periods each week. Instrumental Music, fourth year. Prerequisite, Music 459 and a knowledge of instruments satisfactory to the instructor. Mr. Weigel.

Survey and study of ensemble literature and instrumental methods suitable for junior and senior high school use. Advanced problems in conducting and interpretation. Conducting from full score. Each student is given practical experience in conducting the Departmental Orchestra.

650. Minor Problems. One to five credit hours. All Quarters. Prerequisite, the consent of the department. All instructors.

Investigation of minor problems in the field of music.

NURSING

(See Public Health and Hygiene)

NOTE: For complete description of all courses in the Education-Science Nursing Curriculum, see the Bulletin of the School of Nursing.

PHILOSOPHY

Office, 109 University Hall

PROFESSORS LEIGHTON, CHANDLER, AND AVEY, MR. SLATTERY, MR. LEVINGER, MR. REITHER, AND ASSISTANTS

The courses in philosophy are not open to Freshmen with the exception of 402, which is open to Freshmen who have completed two Quarters' work. Seniors receive full credit for 402.

The courses fall into three groups. Those in the first group (Nos. 401-405) are elementary in character and have no prerequisite. They are designed for students in the junior division who desire an introduction to philosophy as systematic reflection on the meaning and aims of human civilization.

The courses in the intermediate group (601-662) are more advanced and have prerequisites, although these prerequisites are not always in philosophy. These courses are designed for students, whether intending to specialize in literature, the social or natural sciences, or in philosophy itself, who desire a more thorough acquaintance with the history of thought and with the fundamental issues of present-day science, religion, and practical life. Courses bearing numbers between 600 and 650 deal with various phases of the history of thought; courses bearing numbers between 650 and 700 are systematic, that is, they undertake to deal with current issues on their merits.

The following courses are relevant to all special interests since they deal with the most general underlying problems: 401, 402, 405, 601, 602, 603, 611, 653, 656, 661, 662.

Courses related to literature and fine arts: 607, 608, 653, 655, 662.

Courses related to mathematics and natural science: 402, 650, 652, 657, 661.

Courses related to social sciences, psychology, and education: 405, 607, 610, 611, 652, 653, 656, 661, 662.

Courses related to commerce and journalism: 405, 656.

Courses related to religion: 405, 607, 608, 609, 610, 611, 653, 656, 661, 662.

Students concentrating in philosophy may be guided by their special interests, but are advised to include 402, 405, 601, 602, 603, 661, and 662 in their programs. Students looking forward to graduate work in philosophy should lay fully as much stress upon securing a sound general cultural and scientific training as upon the special work of this department.

401. Introduction to Philosophy. Five credit hours. One Quarter. Autumn, Winter, Spring. No prerequisite. All instructors.

The meaning and scope of philosophy, its typical problems and theories, its relations to the special sciences and to social life and religion. The course is intended primarily for sophomores desiring a general introduction to philosophy; it is not required for admission to any other course.

402. Elementary Logic. Five credit hours. One Quarter. Autumn, Winter, Spring. No prerequisite. All instructors.

A study of the methods employed in the search for facts, the formulation and testing of general principles, and the application of principles to specific cases. Illustrations are drawn from the processes of common sense, science, history, and law. A natural continuation of this course will be found in Philosophy 650.

405. Elementary Ethics. Five credit hours. One Quarter. Autumn, Winter, Spring. No prerequisite. All instructors.

An introductory study of the chief theories of the moral life. A natural continuation of this course will be found in Philosophy 656.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

Courses bearing numbers 601 to 650 are historical; courses bearing numbers 651 to 700 are systematic.

601. Ancient Philosophy. Five credit hours. Autumn Quarter. Mr. Chandler.

The development of philosophical thought from the Greeks to the Middle Ages. Most of the time is devoted to Greek philosophy. A natural continuation of this course will be found in Philosophy 602; a more specialized treatment of medieval philosophy will be found in Philosophy 609.

602. Modern Philosophy. Five credit hours. Winter Quarter. Mr. Leighton.

The development of philosophical thought from the Renaissance to the middle of the nineteenth century. A natural continuation of this course will be found in Philosophy 603. Philosophy 601 or 602 is recommended to advanced undergraduates of good scholastic standing as a first course in philosophy.

603. Contemporary Philosophy. Five credit hours. Spring Quarter. Prerequisite, Philosophy 602. Mr. Leighton.

The development of philosophical thought from the middle of the nineteenth century to the present.

607. Development of Hebrew Ideas in the Old Testament. Five credit hours. Spring Quarter. Mr. Avey.

Methods of scholarly study of ancient historical documents are considered, and then applied to the writings of the Old Testament for the purpose of determining their chronological order. On this basis is developed a history of Hebrew ideas, including early tradition; the ideals of the prophets; legal formalism; religious poetry; the Messianic hope.

Not open to students who have credit for Philosophy 407.

608. Philosophy and Poetry. Three credit hours. Spring Quarter. Prerequisite, two courses in Philosophy. Mr. Chandler.

A discussion of Lucretius, Dante's "Divine Comedy", and Goethe's "Faust", for the light they throw on the history of thought and the nature of poetic excellence.

609. Medieval Philosophy. Three credit hours. Winter Quarter. Prerequisite, Philosophy 401, 601, 607, or 610. Mr. Levinger.

The development of philosophical thought from the Church Fathers, through the Arabic, Jewish and scholastic writers, to the Renaissance. A natural continuation of this course will be found in Philosophy 602.

610. Origins of Christian Thought. Three credit hours. Winter Quarter. Prerequisite, Philosophy 401, 601, 607 or 611. Mr. Avey.

A historical inquiry into the content and meaning of the psychological, ethical, and metaphysical teaching of the New Testament; with an inquiry into the development of Christian thought up to the formation of the Nicene Creed.

611. Origin and Development of Religious Ideas. Five credit hours. Autumn Quarter. Mr. Avey.

A general survey of the fundamental ideas of the most important historical religions, including primitive beliefs; Brahmanism; Buddhism; Confucianism; Mohammedanism; Judaism; the various forms of Christianity.

Not open to students who have credit for Philosophy 408.

623. Plato. Three credit hours. Autumn Quarter. Prerequisite, three Quarters in philosophy, including 401 or 601. Mr. Chandler.

Selected dialogues of Plato will be studied in Jowett's translation with reference to their permanent significance for philosophy, literature, and politics.

***624. Aristotle and Plotinus.** Three credit hours. Winter Quarter. Prerequisite, Philosophy 623. Mr. Chandler.

Selections from the writings of Aristotle and Plotinus will be studied with reference to their permanent significance for philosophy.

625. Representative Pre-Kantian Philosophers. Three credit hours. Winter Quarter. Prerequisite, Philosophy 602. Mr.

A few representative works of classic thinkers of the period from Bacon and Descartes to Kant will be selected for intensive study.

***626. Representative Post-Kantian Idealists.** Three credit hours. Winter Quarter. Prerequisite, Philosophy 602. Mr. Leighton.

A few representative works of classic idealists of the period from Kant to Schopenhauer will be selected for intensive study.

***627. Nineteenth Century Empiricists.** Three credit hours. Spring Quarter. Prerequisite, Philosophy 602.

A study of John Stuart Mill and other positivists, and Herbert Spencer and other philosophical evolutionists.

650. Elements of Symbolic Logic. Three credit hours. Spring Quarter. Prerequisite, Philosophy 402. Mr. Avey.

A continuation of the study of logic for students who wish to become acquainted with recent methods of representing logical concepts by means of symbols and with their manipulation in deductive processes.

652. Philosophy of Science. Three credit hours. Autumn Quarter. Prerequisite, Philosophy 401 and 402 or their equivalent. Mr.

A study and critical discussion of a few general interpretations of the methods and basic assumptions of the natural and social sciences.

* Not given in 1931-1932.

653. Philosophy of Religion. Three credit hours. Spring Quarter. Prerequisite, one of the following: Philosophy 401, 405, 601, 602, 607, 610, 611, 656. Students are advised to take 611 as a background for this course. Mr. Leighton.

The psychical and social nature of religion; a systematic examination of the fundamental religious conceptions—the idea of God in relation to the idea of the world, the idea of man, and the problem of human destiny.

655. Esthetics. Five credit hours. Winter Quarter. Prerequisite, one course in philosophy and one course in psychology. Mr. Chandler.

A study of the various fine arts including music and literature, and of the beauty of nature, with the aim of discovering their relation to human nature, their respective limitations, and their value for individual and social life.

Not open to students who have credit for Philosophy 415.

656. Principles of Individual and Social Ethics. Three credit hours. Spring Quarter. Prerequisite, one of the following: Philosophy 401, 405, 601, 602, 607, 611, Psychology 401-402, or Sociology 401-402. Mr. Leighton.

Systematic development of a philosophy of human values, and its application to the chief forms and activities of civilized life—industrial and economic activities, the state, education, culture, and religion. Emphasis is laid on the social function of education as being the most important instrument of individual welfare and social progress.

Not open to students who have credit for Philosophy 406.

***657. Mathematical Logic.** Three credit hours. Autumn Quarter. Prerequisite, Philosophy 402, 650, or six Quarters of college mathematics. Mr. Avey.

A study of some of the outstanding recent works in the field; reports; discussions.

661. Metaphysics of Knowledge and Nature. Three credit hours. Autumn Quarter. Prerequisite, two of the following: Philosophy 401, 601, 602, 603, 625, 626, or the permission of the instructor. Mr. Leighton.

A systematic consideration of the nature of scientific method and the scientific conception of nature in its bearings on the problems of man.

662. Metaphysics of Personality and Values. Three credit hours. Winter Quarter. Prerequisite, two of the following: Philosophy 401, 601, 602, 603, 625, 626, or the permission of the instructor. Philosophy 661 will ordinarily precede this course. Mr. Leighton.

A systematic consideration of the nature of the self and society, the problem of values, and the problem of the meaning of existence as a whole.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801. Seminary in Systematic Philosophy.

802. Seminary in Systematic Philosophy.

803. Seminary in Systematic Philosophy.

***805. Scientific Method.**

806. Epochs in the History of Thought.

* Not given in 1931-1932.

809-810-811. Research.

*815-*816-*817. Seminary in Social and Political Philosophy.

*820. Philosophy of History.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PHONETICS (DIVISION)

Office, 324 Derby Hall

PROFESSOR G. O. RUSSELL, MISS MASON, MR. WALTZ, AND ASSISTANTS

NOTE: Students interested in either the research problems or numerous professions and fields concerned with speech and hearing in varied ramifications are now permitted to either major or minor in phonetics and cover a comprehensive program dealing with speech as such, without following the vaguely related requirements in literature, optics, etc., as heretofore required. Such students do well to consult, at their earliest convenience, with the director of the phonetics laboratories, possible professors in courses likely to interest them, and chairmen or advisers of the various allied departments.

Americanization Work. Students interested primarily in Americanization work and the correction of foreign brogue, will naturally choose supporting subjects in other departments such as history, sociology, political science, English, etc.

Speech Correction. Students who desire to prepare for private practice, school, or clinical work in speech correction will take other necessary courses in abnormal psychology, anatomy, public speaking and dramatic art, public health and hygiene, education, etc.

Teachers of the Deaf. Students aiming to prepare as state or public school teachers of the deaf, or undertake private practice in the field will find additional help in the departments of public health and hygiene, genetic and abnormal psychology, physiology, sociology, education, etc.

Scientific Aspects of Speech and Hearing. Students interested in the various scientific aspects of speech and hearing, whether of a pure research or practical nature, should make liberal choice of supporting courses in physics, communication engineering, psychology, physiology, anatomy, etc.

Pronunciation Aspects of Foreign or Native Languages. Students interested in the phonetics or pronunciation aspects of given foreign or their native languages will pursue their basic supporting courses in the department in question.

The phonetics personnel, laboratories, speech and hearing clinic, apparatus, and phonographic archives are intended to serve all departments. The free speech, voice, and hearing clinic is designed to aid all teachers in avoiding class failures wherever they desire to refer students and is open to all citizens of the state. Those wishing information about the clinic should report to room 324, Derby Hall, or telephone UN-3148; Campus 324. The practical phonetics laboratories and staff likewise serve all language departments in improving modern language and speech instruction, by teaching a student to speak and hear as he would in a foreign country.

The following courses from other departments will be counted towards a major in phonetics, when authorized by Professor Russell:

Physics 401-402-109, or 403-404-409, or 411-412-413; 621.

Anatomy 414, 412.

Psychology 601, 605, 607, 608, 609.

Electrical Engineering 611, 612, 716, 717.

English 528, 627.

* Not given in 1931-1932.

Public Speaking 401, 614.
 French 627.
 Spanish 620.
 German 655.
 Greek 701.

NOTE: See the complete description of each of these courses for prerequisites, Quarters offered, etc., as given under the department concerned. As early in his program as possible the student should assure prerequisites specified.

400. Speech Correction. No credit. One Quarter. Autumn, Winter, Spring. Miss Mason, Mr. Waltz, and assistants.

Designed for native-born students who have defects of speech or hearing or for foreign students who desire a better mastery of spoken English.

401. Elements of Speech. Five credit hours. One Quarter. Autumn, Winter, Spring. Miss Mason, Mr. Waltz, and assistants.

An introductory course in the elements of speech; study of dictionary pronunciation, correct and incorrect norms; training in the perception of speech differences and the use of the phonetic alphabet.

403. General Phonetics: Physiological. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Phonetics 401 or permission of the instructor. Miss Mason, Mr. Waltz, and assistants.

X-Ray, fluoroscopic, and moving picture records and analyses of the physiological positions and movements involved in the production of English speech sounds (vowels and consonants), with special emphasis upon the coordination of these movements in current speech. Accent, rhythm, sound changes, and English speech-melody patterns. Training in the recognition and interpretation of the same.

407. General Phonetics: Practical. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Phonetics 401 or permission of the instructor. Miss Mason, Mr. Waltz, and assistants.

Introduction to laboratory methods; training in the production of speech sounds. Fundamental principles involved in the teaching and acquiring of the mastery of strange sounds, and unpracticed pronunciation habits. Laboratory practice.

413. Physiology and Hygiene of Voice. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Phonetics 401 or permission of the instructor. Miss Mason, Mr. Waltz, and assistants.

This course is intended for all who major in speech. It is recommended for prospective clergymen, lawyers, teachers, students of singing and others interested in the physiological and mechanistic changes involved in voice quality differences, modifying one or the other, and means of analysis. Laboratory and class practice.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Sound: Laboratory Phonetics. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Given biennially alternating with Phonetics 622. Mr. Russell.

Study and analysis of sound in its physiological aspects. Training in the observation, recording, and analysis of speech.

610. English Phonetics. Three credit hours. Spring Quarter. Three hours of lectures and drill each week. Mr. Kurath.

The chief types of cultivated American pronunciation and the British standard of pronunciation will be studied, and some specimens of popular dialect examined. Practice in reading and writing phonetic texts.

615. Americanization Phonetics. Three to five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, satisfactory courses in the field of the problem and permission of the instructor. Lecture, laboratory, and library work. Mr. Waltz.

A study of the defects involved and the methods of correction. Laboratory work to that end. A course designed especially for the foreign students on the campus looking to a correction of their phonetic defects of speech; and also for those interested in a study of the means of such correction and the usage of the phonetic laboratory equipment involved, especially Americanization teachers.

Not open to students who have credit for Spanish 621.

***622. History of Experimental Phonetics.** Five credit hours. One Quarter. Autumn, Winter, Spring. Lecture, library and laboratory work. Given biennially alternating with Phonetics 601. Mr. Russell.

A consideration of the historical attempts at an experimental analysis of the scientific problems involved in human speech. The laboratory work will be dedicated to duplication by each student of the most basic of those experiments. This course is designed as a preliminary to all courses in phonetics, philology, teaching of language, psychology of language, telephone and radio communication, speech pathology, etc.

Not open to students who have credit for Spanish 622.

630. Technique of Speech Correction in Elementary Schools. Five credit hours. Spring Quarter. Prerequisite, satisfactory courses in the field of speech and permission of the instructor. Mr. Russell and assistants.

Lectures, clinical demonstrations, observation in class, public schools, and institutions, and in the demonstration speech improvement class. Practice in diagnosis and correction of the more common speech defects among public school children.

635. Work with the Deaf and Hard of Hearing. Five credit hours. One Quarter. Autumn, Winter, Spring. Lectures, library and laboratory work. Prerequisite, permission of the instructor. Miss Mason.

Problems of auricular and visual interpretation of speech; training of articulation and voice quality with its pitch modulation or normal intonation. Psychology of the individual. Training in lip reading. Practice in the giving of hearing tests, with whispered and voiced speech technique, tuning forks, Western Electric 4-A and 2-A Audiometers, gamut scales and watch-ticks. Other drill such as the teacher and public health nurse needs.

640. Correction of Stammering and Stuttering. Five credit hours. Autumn Quarter. Lectures, library and laboratory work. Prerequisite, permission of the instructor. Mr. Russell and assistants.

Consideration of the various theories advanced as to the cause of the impediment. Training in office practice; case-taking including personal, family, school, social, traumatic, pathological, psychological, phonetic, and other needed history; clinical records of progress, checks, and general prognosis with necessary causative analysis and citation. Advanced students may be given actual clinical and laboratory practice in correction; any may be permitted to follow this course with directed research in the field.

700. Minor Research: Human Speech. Three to five credit hours. One Quarter. Autumn, Winter, Spring. Conference, library and laboratory work. Prerequisite, satisfactory courses in the field of the problem

* Not given in 1931-1932.

undertaken. A student may repeat this course and spend such time as the problem calls for during the Quarter. Mr. Russell.

This course is designed to permit any properly qualified person to avail himself of the library and laboratory facilities of the university for carrying out a minor or preliminary investigation, or for adding to his knowledge and technique in any phase of the study of human speech and sound as related thereto, or of the mechanism involved in its production, or of its known defects and their correction.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

800. Phonetic Research: Major Problems.

PHYSICAL EDUCATION

MEN

Office, The Gymnasium

PROFESSORS ST. JOHN, CASTLEMAN, WILCE, AND WILLAMAN, ASSISTANT
PROFESSORS COBB, OLSEN, HINDMAN, WOOD, METCALF, DUFFEE,
AND SNYDER, MR. MOONEY, MR. STALEY, MR. PEPPE, MR.
CASTLE, MR. STAHL

Students in the College of Education may major in physical education. This course prepares for all types of positions of leadership in the field of physical education, athletic coaching, recreation, and health supervision.

Students in the College of Education may take courses in physical education as a minor not to exceed thirty Quarter-credit hours, in addition to the required courses. 400, 401, 402, 403, on the approval of the Chairman of the Department of Physical Education and the Dean of the College of Education.

Juniors and Seniors not taking physical education as a minor, may elect one or more courses in addition to the courses required of all students. Such students may not elect in the aggregate more than nine Quarter-credit hours. In each case the approval of the Chairman of the Department and of the Dean of the College of Education is necessary. Students in the Colleges of Agriculture, Arts and Sciences, Commerce and Administration, and Engineering wishing to take these courses must secure permission of the Deans of their respective Colleges and the Chairman of the Department of Physical Education.

All students who major or minor in physical education must consult with Mr. Hindman of the department each Quarter before handing in their schedules.

400. Hygiene. One credit hour. One Quarter. Autumn, Winter, Spring. One lecture each week. Required of every Freshman unless he takes Hygiene 410, during one of his first four Quarters of residence in the University. All instructors.

This course deals with the various factors and conditions which affect the health and efficiency of the student.

401. Physical Education. One credit hour. Autumn Quarter. Two hours each week. Required of every Freshman. All instructors.

The work in this course is based on a thorough physical examination given at the beginning of the entering Quarter.

The course includes general body-building exercises, gymnastic and athletic games, and antagonistic sports, with advanced elective activities for the physically superior groups.

402. Physical Education. One credit hour. Winter Quarter. Two hours each week. Required of every Freshman. All instructors.

A continuation of Physical Education 401.

403. Physical Education. One credit hour. Spring Quarter. Two hours each week. Required of every Freshman. All instructors.

A continuation of Physical Education 402.

NOTE: The following courses in physical education are open to students in the College of Education as a major or minor. Students in the Colleges of Agriculture, Arts and Sciences, Commerce and Administration, and Engineering wishing to take these courses must secure permission of the Deans of their respective Colleges and of the Chairman of the Department of Physical Education.

410. Hygiene. Three credit hours. Autumn Quarter. Three lectures each week. Must be taken by students in the Physical Education curriculum, and may be elected by others, instead of Hygiene 400. Mr. Duffee.

The course aims to establish a basis for positive health and efficiency through a consideration of the various conditions and factors which affect health.

441. Theory and Practice of Physical Education (Men). Two credit hours. Autumn Quarter. One lecture and three laboratory periods each week. Physical Education, second year. Mr. Hindman.

A consideration by discussion and readings of the mental and physical growth and development during early and later childhood. The purpose will be to acquaint the student with the interests and tendencies which occur during the various age periods and prepare him for the adaptation of physical activities to the individual. Practice and instruction in methods of teaching volley ball, playground ball, soccer, speed-ball, cage-ball, hand-ball, squash and tennis.

442. Theory and Practice of Physical Education (Men). Two credit hours. Winter Quarter. One lecture and three laboratory periods each week. Physical Education, second year. Prerequisite, Physical Education 441. Mr. Hindman, Mr. Mooney.

A continuation of the study of growth and development during early and later adolescence, and a consideration of the function of play and recreation and the organization of play activities in the school curriculum and on the playground. Practice and instruction in methods of teaching personal combat activities, boxing, wrestling and fencing.

443. Theory and Practice of Physical Education (Men). Two credit hours. Spring Quarter. One lecture and three laboratory periods each week. Physical Education, second year. Mr. Castleman.

Study and practice in the theory, method, and mechanics of coaching track and field events.

NOTE: Physical Education 441-442-443 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

445. Theory and Practice of Physical Education (Men). Three credit hours. Autumn Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Mr. Cobb.

A consideration of the more formalized types of activities and their application in elementary and secondary schools and colleges. Practice and instruction in methods of teaching, marching tactics, postural exercises, calisthenics, gymnastic drills, heavy and light apparatus, and mat work.

446. Theory and Practice of Physical Education (Men). Three credit hours. Winter Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Mr. Willaman.

Study and practice in the strategy and mechanics of directing football, including a consideration of football rules, football fundamentals, individual and team play, offensive and defensive formations, organization and practice periods and educational values of sports.

447. Theory and Practice of Physical Education (Men). Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Mr. St. John.

Study and practice in the theory, strategy, and mechanics of coaching baseball, including batting, base-running, and the playing of all positions.

NOTE: Physical Education 445-446-447 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

449. Theory and Practice of Physical Education (Men). Three credit hours. Autumn Quarter. Two lectures and three laboratory periods each week. Physical Education, fourth year. Mr. Olsen.

Study and practice in the theory, strategy, and mechanics of directing basketball, including various systems of offense and defense and team play, passing, goal throwing, dribbling, pivoting, organization of practice periods, judgment and psychology in handling of men.

450. Theory and Practice of Physical Education (Men). Three credit hours. Winter Quarter. Two lectures and three laboratory periods each week. Physical Education, fourth year. Mr. Wood, Mr. Staley.

A consideration of methods of progression, nomenclature and the organization of programs in physical education. A consideration of intramural activities and their place in the school program. Practice in light and heavy apparatus work, tumbling, athletic and folk dancing.

451. Theory and Practice of Physical Education (Men). Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Physical Education, fourth year. Prerequisite, Physical Education 441-442-443, 445-446-447 and 449-450. Mr. St. John, Mr. Cobb.

Review of technique and methods in coaching the major sports together with a consideration of tennis and golf.

NOTE: Physical Education 449-450-451 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

452. Theory and Practice of Physical Education for High Schools. Three credit hours. Autumn Quarter. Two lectures and two laboratory periods each week. Mr.

A consideration of the various types of physical education programs including practice and instruction in methods of teaching games, marching tactics, developmental exercises, light apparatus, athletic dancing, etc.

†467. **Dancing for Boys.** Two credit hours.

Practice in techniques and study of methods of teaching athletic and tap dancing. Not open to students who have credit for Physical Education 450.

†468. **Tumbling, Stunts, and Self-testing Activities.** Two credit hours.

Practice in techniques and study of methods of teaching.

Not open to students who have credit for Physical Education 450.

†469. **Group Games for Boys.** Two credit hours.

Study and practice of a large number of group games.

†482. **Play and Playground.** Two credit hours. Miss Hersey.

Lectures on the meaning of play, characteristics of different age periods. Classification and organization of play activities suitable for each age period. Visits will be made to the city playgrounds.

493. **Therapeutic Gymnastics and Physical Examinations.** Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Anatomy 412 and Physiology 407 and 408 or 409. Mr. Metcalf.

Lectures, recitations, and practice, dealing with the theory and mechanics of postural defects, with practice in giving exercises suitable for each condition. Exercise for remedial work will enable the student to carry out the prescription of a physician. The course includes a discussion of the physical examination and methods used in diagnosis of physical defects.

498. **The Teaching of Swimming.** Two credit hours. One Quarter. Winter and Spring. Four lecture and laboratory hours each week. Prerequisite, Physical Education 401 in swimming, or the passing of a test to be given by the instructor. Mr. Peppe.

This course presents methods in teaching beginners and advanced swimmers the various strokes. Some consideration will be given to diving. The principles underlying correct form in swimming the different strokes will be emphasized.

ELECTIVE COURSES FOR MEN DISQUALIFIED FOR MILITARY SCIENCE

525. **Physical Education.** One credit hour. Autumn Quarter. Three hours each week. Open to Freshmen disqualified for elementary courses in Military Science. All instructors.

This course is similar in content to Physical Education 401.

526. **Physical Education.** One credit hour. Winter Quarter. Three hours each week. Open to Freshmen disqualified for elementary courses in Military Science. All instructors.

This course is similar in content to Physical Education 402.

527. **Physical Education.** One credit hour. Spring Quarter. Three hours each week. Open to Freshmen disqualified for elementary courses in Military Science. All instructors.

This course is similar in content to Physical Education 403.

528. **Physical Education.** One credit hour. Autumn Quarter. Three hours each week. Open to Sophomores disqualified for elementary courses in Military Science. All instructors.

This course offers advanced training and instruction in various athletic sports.

† Not given during the academic year, 1931-1932.

529. Physical Education. One credit hour. Winter Quarter. Three hours each week. Open to Sophomores disqualified for elementary courses in Military Science. All instructors.

This course offers advanced training and instruction in various athletic sports.

530. Physical Education. One credit hour. Spring Quarter. Three hours each week. Open to Sophomores disqualified for elementary courses in Military Science. All instructors.

This course offers advanced training and instruction in various athletic sports.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

†601. Principles of Football Coaching and Management. Three credit hours. Prerequisite, coaching experience.

A course for advanced students of football. The course will consider the principles underlying various types of football strategy, the designing of plays, methods of teaching and controlling players; also, special problems of management, such as those connected with selecting, handling equipment, and making trips.

†621. Principles of Physical Education. Three credit hours. Prerequisite, Physical Education 683 or 540 or equivalent.

The nature of physical education, especially in relation to overlapping fields, such as health education and community recreation, and to education in general. A critical analysis of various objectives advanced; a review, with applications to physical education of modern conceptions of education and of modern principles in psychology and physiology.

625. Tests and Measurements in Physical Education and Health. Three credit hours. Winter Quarter. Three lectures each week. Mr. Hindman, Mr. _____.

A critical study of various specific tests and types of tests, including those designed to measure health, organic efficiency and neuromuscular capacity or proficiency. Among the tests studied will be those of Schneider, Brace and Rogers, and a number of efficiency standards in use in public school systems and elsewhere.

626. Supervision of Health and Physical Education. Three credit hours. Winter Quarter. Three lectures each week. Mr. _____.

A study of the opportunities and problems of the supervisor in city and county school systems; the relations of the supervisor to the superintendent and to the teacher; rating teachers; methods of assisting teachers.

†628. Problems in Physical Education and Health. Three credit hours.

In this course each student will work under direction on a special problem. The various problems will be reported on and discussed in class.

630. Individual Physical Education. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, Physical Education 493. Mr. Metcalf.

Making a physical education program meet the needs of handicapped individuals, fundamental principles in the selection and adaptation of activities in corrective procedures, abnormal physical conditions that come to the care or attention of the physical educator, methods of examining and determining individual needs, activity programs of both formal and informal character to meet the needs in schools and colleges, will be the problems dealt with in this course. The problems will be discussed in the light of modern objectives of education and particularly individual physical education. There will be lectures, recitations, demonstrations, term projects, and occasional trips to various orthopedic hospitals for observation purposes.

† Not given during the academic year, 1931-1932.

643. The Teaching of Health. Three credit hours. Autumn Quarter. Lectures and discussions. Physical Education, fourth year. Prerequisite, Physical Education 692. Miss Armstrong.

Consideration of place and value of health instruction in elementary and secondary schools, together with evaluation of subject matter and methods. This course may be counted toward the professional requirement in the College of Education.

†645. Administration of Physical Education for Administrators and Supervisors. Three credit hours.

A course for high school principals and city superintendents dealing with problems of organization and management of physical education activities.

649. Camping: Its Organization and Administration. Three credit hours. Spring Quarter. Lectures, readings, and field demonstrations. Three lectures each week. Occasional Saturday mornings will be scheduled for field trips. The course is an elective given jointly by the Departments of Physical Education and Sociology. Prerequisite for Social Administration students, Sociology 645. Prerequisite for Physical Education students, Sociology 401, 402, and fifteen hours in the Theory and Practice of Physical Education. Mr. Mason, Mr. Metcalf, Miss Alway.

The organization and direction of camps, particularly summer camps for boys and girls. Special attention is given to the social and educational program for adolescents. Designed for those preparing for the direction of boys' and girls' work. Practical demonstrations in camping will be included.

This course is the same as Sociology 649.

651. Minor Problems in Physical Education. One to four credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, twenty-five credit hours in physical education. Before registering, students must secure permission of the instructor. Mr. Hindman.

Investigation of minor problems in the fields of physical and health education.

682. Organization and Administration of Physical Education. Five credit hours. Winter Quarter. Five lectures each week. Physical Education, fourth year. Prerequisite, Physiology 407 and 408 or 409, and Physical Education 683. Open to Seniors and graduate students. Mr. St. John, Mrs. Lydia Clark Benedict.

A consideration of the problems of organization for physical education in elementary and secondary schools and colleges, including standards and methods in administration of interscholastic, intercollegiate, and intramural athletics. The first eight lectures will deal with problems common to both men's and women's work. Thereafter, the women's classes will be conducted separately, with emphasis on problems peculiar to this field. The personnel of a department, athletic and gymnastic facilities, and construction, purchase and care of equipment, keeping of records and reports, handling of finances, schedule making, publicity, insignia and awards, managerial systems, scholastic and athletic eligibility, and professionalism will be included in the problems discussed.

683. History and Principles of Physical Education. Five credit hours. Winter Quarter. Five lectures each week. Physical Education, third year. Prerequisite, Physiology 407 and 408 or 409, and Psychology 401. Miss Hersey.

A historical survey of physical education beginning with that of ancient Greece and including contemporary developments and a consideration of the biological and educational aspects of physical education, with special reference to its place in education.

Not open to students who have credit for Physical Education 681.

† Not given during the academic year, 1931-1932.

685. Prevention and Care of Injuries. Three credit hours. Autumn Quarter. Three lectures each week. Physical Education, fourth year. Prerequisite, Physiology 407 and 408 or 409, or their equivalent. Mr. Duffee.

A consideration of the methods of prevention and care of injuries occurring in physical education and competitive sports. The course also includes a discussion of the conditioning of men for athletic contests.

691. Kinesiology. Three credit hours. Autumn Quarter. Three lectures each week. Physical Education, third year. Prerequisite, Anatomy 412 and Physiology 407 and 408 or 409. Mr. Metcalf.

Lectures and recitations dealing with the anatomical mechanism of movements. The purpose of the course is to acquaint the student with means of analyzing movements intelligently and prescribing programs of gymnastics, sports, and dancing for developmental or corrective purposes.

692. Hygiene and School Health Problems. Three credit hours. Spring Quarter. Three lectures each week. Physical Education, third year. Prerequisite, Chemistry 401-402, or 411-412 and Physiology 407 and 408 or 409. Open to Seniors and graduate students. Mr. Duffee.

A consideration of the problems in connection with the health of the school child and teacher. Discussions and reports relating to medical inspection, physical examinations, symptoms and control of common school diseases, malnutrition, and the health environment of the school child.

NOTE: For course in the Physiology of Exercise see the Department of Physiology, Course 620.

WOMEN

Office, Pomerene Hall

PROFESSORS BENEDICT AND ARMSTRONG, ASSISTANT PROFESSORS PALMER, HERSEY, SUMPTION, GILMAN, AND WINNEMORE, MISS ALWAY, MISS SCHLEMAN, MISS LEA, MISS BLUNT, MISS KLING, MISS WATSON, MISS STEIN

Students in the College of Education may take courses in physical education as a minor not to exceed thirty Quarter-credit hours, in addition to the required courses. 400, 421, 422, 423, 425, 426, 427, on the approval of the Chairman of the Department of Physical Education and the Dean of the College of Education.

Juniors and Seniors not taking physical education as a minor, may elect one or more courses in addition to the courses required of all students. Such students may not elect in the aggregate more than nine Quarter-credit hours. The approval of the Chairman of the Department and the Dean of the College of Education is necessary.

400. Hygiene. One credit hour. One Quarter. Autumn, Winter, Spring. One lecture each week. Required of every Freshman during one of her first three Quarters of residence in the University, unless she takes Hygiene 410. Miss Armstrong.

This course deals with the various factors and conditions which affect the health and efficiency of the student.

410. Hygiene. Three credit hours. Spring Quarter. Three recitations each week. Required of all students majoring in Physical Edu-

cation. Elective for all other students and may be substituted for Hygiene 400. Miss Armstrong.

The course aims to establish a basis for positive health and efficiency through a consideration of the various conditions and factors which affect health.

421. Physical Education. One credit hour. Autumn Quarter. Two hours each week. Required of every Freshman. All instructors.

The work includes outdoor sports—hockey, soccer, volley ball, swimming, interpretative dancing, horseback riding, folk dancing, and corrective gymnastics.

422. Physical Education. One credit hour. Winter Quarter. Two hours each week. Required of every Freshman. All instructors.

This work includes indoor baseball, basketball, gymnastics, interpretative dancing, folk dancing, swimming, and corrective work.

423. Physical Education. One credit hour. Spring Quarter. Two hours each week. Required of every Freshman. All instructors.

This work includes baseball, tennis, field and track, archery, swimming, and interpretative dancing.

425. Physical Education. One credit hour. Autumn Quarter. Three hours each week. Required of all Sophomores. All instructors.

A continuation of Physical Education 421, 422, and 423.

426. Physical Education. One credit hour. Winter Quarter. Three hours each week. Required of all Sophomores. All instructors.

A continuation of Physical Education 425.

427. Physical Education. One credit hour. Spring Quarter. Three hours each week. Required of all Sophomores. All instructors.

A continuation of Physical Education 426.

NOTE: Students planning to major in Physical Education should consult the Director of Physical Education for Women regarding selection of activities offered in Physical Education 421, 422, 423, 425, 426, and 427.

NOTE: The following courses in Physical Education are open to students in the College of Education. Students in the Colleges of Agriculture, Arts and Sciences, Commerce and Administration, and Engineering wishing to take these courses must secure permission of the Deans of their respective Colleges and the Chairman of the Department of Physical Education.

†430. Health Education. Three credit hours. Miss Palmer.

A presentation of principles and methods involved in the teaching of health in the public schools. Emphasis will be placed on the content of courses by grade and correlation of health education with physical education.

The laboratory work in connection with this course will deal with the diagnosis and treatment of posture defects of public school children.

†455. Organization and Administration of Physical Education Programs for the Secondary School. Three credit hours. Prerequisite, previous training in team sports adapted to secondary school students.

A consideration of the organization of physical activities for high school girls. Discussions and lectures concerning methods of conducting athletics, intramural programs and girls' athletic associations.

Not open to students who have credit for Physical Education 682.

† Not given during the academic year, 1931-1932.

†456. **Physical Activities for the Elementary School.** Two credit hours.

Discussions concerning the organization of physical activities in the elementary school. Lectures and discussions presenting the theory of physical activities as a medium of creative self-expression. Plays, games, dramatization and rhythms will be taught.

Not open to students who have credit for Physical Education 476.

†460. **Folk Dancing.** Two credit hours.

Practice in rhythm and folk dancing for the elementary and the junior high school. During the class period there will be short talks and discussions on methods of teaching folk dancing.

Not open to students who have credit for Physical Education 461.

†464. **Elementary Interpretative Dancing.** One credit hour.

Practice in elementary developmental exercises for the purpose of establishing correct habits of balance and muscular control. Discussion of the relation of music to the dance. Practice in creating simple dance themes.

†470. **Team Sports I.** Two credit hours.

A consideration of the methods of teaching basketball and baseball. Opportunity for practice will be given during the laboratory period.

†471. **Team Sports II.** Two credit hours.

A consideration of the methods of teaching volley ball, soccer and team games adapted to junior and senior high school students. Opportunity for practice will be given during the laboratory period.

476. **Creative Physical Education for Elementary Teachers.** Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Mrs. Lydia Clark Benedict.

A course presenting the theory of physical activities as a medium of creative self-expression. Rhythmic expression, folk dancing, dramatization, plays and games suitable for the elementary school will be taught. The relation of music to the dance, and practice in creating simple dance themes will be included.

†482. **Play and Playground.** Two credit hours. Prerequisite, Psychology 407 or its equivalent. Miss Hersey.

Lectures on the meaning of play, characteristics of different age periods. Classification and organization of play activities suitable for each age period. Practice in games for elementary and junior high schools. Visits will be made to the city playgrounds.

†492. **Gymnastics.** Two credit hours.

This course includes simple marching, free standing developmental exercises, jumping and vaulting suitable for elementary and junior high school children. Discussion of methods of teaching and practice in conducting class activity.

493. **Therapeutic Gymnastics and Physical Examinations.** Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Anatomy 412 and Physiology 407 and 408 or 409. Miss Gilman.

Lectures, recitations, and practice, dealing with the theory and mechanics of postural defects, with practice in giving exercises suitable for each condition. Exercise for remedial work will enable the student to carry out the prescription of a physician. The course includes a discussion of the physical examination and methods used in diagnosis of physical defects.

† Not given during the academic year, 1931-1932.

†495. **Elementary and Intermediate Swimming.** One credit hour. Instruction and practice in swimming for those wishing to learn to swim.

This course may be substituted for one hour of the Freshman physical education requirement.

†496. **Advanced Swimming.** One credit hour. Instruction and practice for advanced swimmers.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

†514. **Tennis.** One credit hour.

Practice in the correct form in playing tennis. Advanced technique for those who play the game correctly.

This course may be substituted for one hour of the Freshman physical education requirement.

541. **Theory and Practice of Physical Education (Women).** Three credit hours. Autumn Quarter. Three lectures and two laboratory periods each week. Physical Education, second year. Mrs. Lydia Clark Benedict, Miss Hersey, Miss Watson.

Lectures, discussions and readings on the mental and physical growth and development during childhood and adolescence. The purpose of the course will be to acquaint the student with the interests and tendencies which occur during the various age periods and in a measure prepare him for adaptation of physical activities to the individual. Practice in the development of the fundamental muscles by movements based on natural coordinations. Practice in rhythms which are adapted to children in the elementary grades.

542. **Theory and Practice of Physical Education (Women).** Three credit hours. Winter Quarter. Six laboratory hours each week. Physical Education, second year. Prerequisite, Physical Education 541. Mrs. Lydia Clark Benedict, Miss Hersey, Miss Watson.

Gymnastics including developmental exercises and apparatus work. Games and stunts for elementary, junior and senior high school.

543. **Theory and Practice of Physical Education (Women).** Three credit hours. Spring Quarter. Two lectures and four laboratory periods each week. Physical Education, second year. Prerequisite, Physical Education 541-542. Mrs. Lydia Clark Benedict, Miss Hersey.

A study of the organization and administration of school and city playgrounds. Emphasis on planning program of recreational activities for the summer playground. Practice in folk dancing suitable for the elementary school. Opportunity will be given for the teaching of playground activities to children.

NOTE: Physical Education 541-542-543 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

545. **Theory and Practice of Physical Education (Women).** Three credit hours. Autumn Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Physical Education 541-542-543. Miss Schleman, Miss Sumption.

A consideration of the methods of teaching hockey and soccer. Discussion of methods of play, plans for development of advanced technique and organization of the season's work. Practice in Danish Gymnastics.

† Not given during the academic year, 1931-1932.

546. Theory and Practice of Physical Education (Women). Three credit hours. Winter Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Physical Education 541-542-543 and 545. Miss Schleman, Miss Watson.

A consideration of the methods of teaching basketball and volley ball. Practice in interpretative dancing.

547. Theory and Practice of Physical Education (Women). Three credit hours. Spring Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Physical Education 541-542-543 and 545-546. Miss Palmer, Miss Sumption.

A consideration of the methods of teaching baseball, archery, field and track events. Organization of tournaments and meets adapted to elementary and secondary schools.

NOTE: Physical Education 545-546-547 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

549. Theory and Practice of Physical Education (Women). Three credit hours. Autumn Quarter. Two lectures and four laboratory periods each week. Physical Education, fourth year. Prerequisite, Physical Education 541-542-543 and 545-546-547. Miss Sumption, Miss Lea.

A consideration of the methods of teaching swimming and gymnastics. Practice in the organization of lesson plans. Attention will be given to the selection of gymnastic material which is adapted to elementary and secondary schools.

550. Theory and Practice of Physical Education (Women). Three credit hours. Winter Quarter. Two lectures and four laboratory periods each week. Physical Education, fourth year. Prerequisite, Physical Education 541-542-543, 545-546-547, and 549. Miss Watson.

Lectures, discussions and readings dealing with the philosophy of the dance. The relation of the dance to the drama and the organization of dancing in festivals and pageants. Attention will be given to the selection of music, line and color. Practice in advanced work in rhythmic expression and advanced folk dancing. Attention will be given to the adaptation of this work to secondary schools and colleges.

551. Theory and Practice of Physical Education (Women). Three credit hours. Spring Quarter. Five laboratory periods each week. Physical Education, fourth year. Prerequisite, Physical Education 541-542-543, 545-546-547, and 549-550. Miss Palmer, Miss Hersey, Miss Schleman, Miss Blunt.

Methods of teaching tennis. Practice in clogging.

NOTE: Physical Education 549-550-551 form a unit of work which is required in the curriculum in Physical Education and may be elected by other students in the College of Education.

†621. Principles of Physical Education. Three credit hours. Prerequisite, Physical Education 683 or 540 or equivalent.

The nature of physical education, especially in relation to overlapping fields, such as health education and community recreation, and to education in general. A critical analysis of various objectives advanced; a review, with applications to physical education of modern conceptions of education and of modern principles in psychology and physiology.

† Not given during the academic year, 1931-1932.

625. Tests and Measurements in Physical Education and Health. Three credit hours. Winter Quarter. Three lectures each week. Mr. Hindman, Mr.

A critical study of various specific tests and types of tests, including those designed to measure health, organic efficiency and neuromuscular capacity or proficiency. Among the tests studied will be those of Schneider, Brace and Rogers, and a number of efficiency standards in use in public school systems and elsewhere.

626. Supervision of Health and Physical Education. Three credit hours. Winter Quarter. Three lectures each week. Mr.

A study of the opportunities and problems of the supervisor in city and county school systems; the relations of the supervisor to the superintendent and to the teacher; rating teachers; methods of assisting teachers.

†628. Problems in Physical Education and Health. Three credit hours.

In this course each student will work under direction on a special problem. The various problems will be reported on and discussed in class.

630. Individual Physical Education. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, Physical Education 493. Mr. Metcalf.

Making a physical education program meet the needs of handicapped individuals, fundamental principles in the selection and adaptation of activities in corrective procedures, abnormal physical conditions that come to the care or attention of the physical educator, methods of examining and determining individual needs, activity program of both formal and informal character to meet the needs in schools and colleges, will be the problems dealt with in this course. The problems will be discussed in the light of modern objectives of education and particularly individual physical education. There will be lectures, recitations, demonstrations, term projects, and occasional trips to various orthopedic hospitals for observation purposes.

643. The Teaching of Health. Three credit hours. Autumn Quarter. Lectures and discussions. Physical Education, fourth year. Prerequisite, Physical Education 692. Miss Palmer.

Consideration of place and value of health instruction in elementary and secondary schools, together with evaluation of subject matter and methods. This course may be counted toward the professional requirement in the College of Education.

†645. Administration of Physical Education for Administrators and Supervisors. Three credit hours.

A course for high school principals and city superintendents dealing with problems of organization and management of physical education activities.

649. Camping: Its Organization and Administration. Three credit hours. Spring Quarter. Lectures, readings and field demonstrations. Three lectures each week. Occasional Saturday mornings will be scheduled for field trips. The course is an elective given jointly by the Departments of Physical Education and Sociology. Prerequisite for Social Administration students, Sociology 645. Prerequisite for Physical Education students, Sociology 401, 402 and fifteen hours in the Theory and Practice of Physical Education. Mr. Mason, Mr. Metcalf, Miss Alway.

The organization and direction of camps, particularly summer camps for boys and girls. Special attention is given to the social and educational program for adolescents. Designed for those preparing for the direction of boys' and girls' work. Practical demonstrations in camping will be included.

This course is the same as Sociology 649.

† Not given during the academic year, 1931-1932.

651. Minor Problems in Physical Education. One to four credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, twenty-five hours in physical education. Before registering, students must secure permission of the instructor. Mrs. Lydia Clark Benedict.

Investigation of minor problems in the field of physical and health education.

671. Therapeutic Gymnastics, Advanced (Women). Three credit hours. Autumn Quarter. Two lectures and three laboratory periods each week. Physical Education, fourth year. Prerequisite, Anatomy 412, Physiology 407 and 408 or 409, and Physical Education 493. Miss Armstrong, Miss Gilman.

Lectures and discussions of therapeutic gymnastics in elementary and secondary schools and colleges. Opportunity will be given for observation and practice in college groups and clinics. Practice will be given in first aid and massage.

682. Organization and Administration of Physical Education. Five credit hours. Winter Quarter. Five lectures each week. Physical Education, fourth year. Prerequisite, Physiology 407 and 408 or 409, and Physical Education 683. Open to Seniors and graduate students. Mr. St. John, Mrs. Lydia Clark Benedict.

A consideration of the problems of organization for physical education in elementary and secondary schools and colleges, including standards and methods in administration of interscholastic, intercollegiate, and intramural athletics. The first eight lectures will deal with problems common to both men's and women's work. Thereafter, the women's classes will be conducted separately, with emphasis on problems peculiar to this field. The personnel of a department, athletic and gymnastic facilities, and construction, purchase and care of equipment, keeping of records and reports, handling of finances, schedule making, publicity, insignia and awards, managerial systems, scholastic and athletic eligibility, and professionalism, will be included in the problems discussed.

683. History and Principles of Physical Education. Five credit hours. Winter Quarter. Five lectures each week. Physical Education, third year. Prerequisite, Physiology 407 and 408 or 409, and Psychology 401. Miss Hersey.

A historical survey of physical education beginning with that of ancient Greece and including contemporary developments and a consideration of the biological and educational aspects of physical education, with special reference to its place in education.

Not open to students who have credit for Physical Education 681.

691. Kinesiology. Three credit hours. Autumn Quarter. Two lectures and three laboratory periods each week. Physical Education, third year. Prerequisite, Anatomy 412 and Physiology 407 and 408 or 409. Miss Sumption.

Lectures and recitations dealing with the anatomical mechanism of movements. The purpose of the course is to acquaint the student with means of analyzing movements intelligently and prescribing programs of gymnastics, sports, and dancing for developmental or corrective purposes.

692. Hygiene and School Health Problems. Three credit hours. Spring Quarter. Three lectures each week. Physical Education, third

year. Prerequisite, Chemistry 401-402 or 411-412 and Physiology 407 and 408 or 409. Open to Seniors and graduate students. Mr. Duffee.

A consideration of the problems in connection with the health of the school child and teacher. Discussions and reports relating to medical inspection, physical examinations, symptoms and control of common school diseases, malnutrition, and the health environment of the school child.

NOTE: For course in the Physiology of Exercise, see the Department of Physiology, Course 620.

PHYSICS

Office, 107 Mendenhall Laboratory

PROFESSORS ALPHEUS W. SMITH, EARHART, BLAKE, AND LANDE, ASSOCIATE PROFESSORS ALVA W. SMITH AND THOMAS, ASSISTANT PROFESSOR HEIL, MR. ZUMSTEIN, MR. GREEN, MR. KNAUSS, MR. POOL, MR. HESTHAL, MR. NIELSEN, MR. BENNETT, AND ASSISTANTS

401. Elementary Physics. Five credit hours. One Quarter. Autumn and Winter. Four lectures and recitations and one two-hour laboratory period each week. Mr. Alpheus W. Smith, Mr. Knauss.

This course together with Physics 402 undertakes to give a descriptive and non-mathematical survey of the field of physics.

This course is open to students who enter either with or without a unit of high school physics. It is not open to pre-medical or pre-dental students.

402. Elementary Physics. Five credit hours. One Quarter. Winter and Spring. Four lectures and one two-hour laboratory period each week. Prerequisite, Physics 401. Mr. Alpheus W. Smith, Mr. Knauss.

A continuation of Physics 401 with the same purposes and intended to meet the same needs.

403. General Physics: Mechanics and Heat. Five credit hours. Autumn Quarter. Four lectures and recitations and one two-hour laboratory period each week. Prerequisite, two entrance units in mathematics. Mr. Earhart, Mr. Blake.

This course is intended to meet the needs of students who wish to begin the study of physics with a view to obtaining a basic training in that science because of its intimate relation to such subjects as chemistry, mathematics, physiology or psychology as well as for those students who want to specialize in physics because of educational or industrial considerations. It is not open to pre-medical or pre-dental students.

404. General Physics: Sound, Light, Electricity. Five credit hours. Winter Quarter. Four lectures and recitations and one two-hour laboratory period each week. Prerequisite, Physics 403. Mr. Earhart, Mr. Blake.

A continuation of Physics 403. It is not open to pre-medical or pre-dental students.

409. Elementary Electron Physics. Five credit hours. Spring Quarter. Four lectures and recitations and one two-hour laboratory period each week. Prerequisite, Physics 402 or 404, or Chemistry 401-402 or 411-412, or equivalent. Mr. Hesthal.

This course is designed to give some idea of "the new physics." The following topics are treated, among others: cathode rays, ionization, electrons, mass and charge

of the electron, X-rays, radioactivity, disintegration of atoms, positive rays, protons, atomic nuclei, atomic numbers, isotopes, spectra of hydrogen and ionized helium, series in other spectra, Bohr's theory of atom structure, X-ray analysis by crystals, crystal structure.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

501. Geometrical and Physical Optics. Five credit hours. Autumn Quarter. Three lectures and recitations and two two-hour laboratory periods each week. Prerequisite, Physics 411-412-413 or Physics 403-404 and Mathematics 421-422. Mr. Pool.

This course treats of the fundamental principles and methods of geometrical optics, with special reference to refractive indices, prisms, thin lenses, cylindrical lenses, combinations of thin lenses and thin lens systems, etc.

Not open to students who have credit for Applied Optics 401.

502. Geometrical and Physical Optics. Five credit hours. Winter Quarter. Three lectures and recitations and two two-hour laboratory periods each week. Prerequisite, Physics 501. Mr. Pool.

A continuation of Physics 501. It treats of thick lenses, combinations of lenses and mirrors, optical instruments used in conjunction with the eyes, magnifying power, chromatic and spherical aberration, diffraction, interference, etc.

Not open to students who have credit for Applied Optics 402.

503. Geometrical and Physical Optics. Five credit hours. Spring Quarter. Three lectures and recitations and two two-hour laboratory periods each week. Prerequisite, Physics 502. Mr. Pool.

A continuation of Physics 502. It treats of optical instruments, spectroscopy, photometry and illumination, double refraction, polarization, absorption of light, color vision, etc.

Not open to students who have credit for Applied Optics 403.

607. Physical Optics. Four credit hours. Autumn Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Hesthal.

Lenses; systems of lenses; defects of images and their correction; diffraction; interference; polarization; optical rotation; dispersion and anomalous dispersion; optical instruments such as plane grating, concave grating; prism spectroscopes for visible, ultra-violet, and infra-red; interferometers; spectrophotometers and microphotometers.

608. Advanced Electricity. Four credit hours. Winter Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and Physics 403-404. Mr. Earhart.

An introductory course in the mathematical theory of electricity and magnetism.

609. Molecular Physics and Heat. Four credit hours. Autumn Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and Physics 403-404. Mr. Earhart.

A study of the kinetic theory of gases, capillarity, osmosis, and related topics.

610. Conduction of Electricity through Gases and Radioactivity. Four credit hours. Winter Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and Physics 403-404 or equivalent. Mr. Heil.

An introductory course on the passage of electricity through gases and evacuated tubes, ionic velocities, photo-electricity, cathode rays and positive rays, radioactivity, elementary introduction to electron theory of matter, etc.

611. Modern Spectroscopy. Four credit hours. Spring Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Zumstein.

A discussion of recent progress in spectroscopy, covering the following topics: series lines in spectra, Ritz principle of combination, Bohr's explanation, neutral and ionized states, ionization potential, types of series, electron orbits, generalization of Bohr's assumption, total and partial quantum numbers, Stark effect, intensity of lines; recent infra-red work; new work in ultra-violet; rest-strahlen, and focal isolation; Zeeman effect; absorption spectra, "raies ultimes."

612. Periodic and Transient Electric Currents. Four credit hours. Spring Quarter. Three lectures and recitations and one two-hour laboratory period each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Alva Smith.

Transient and stationary states in electrical circuits containing impulsive or periodic electromotive forces treated by the methods of differential equations and vector analysis; periodic and aperiodic currents in single circuits with resistance, inductance and capacity in series or parallel; coupled circuits; resonance phenomena; damped oscillations; theory of alternating current bridge measurements; pulsating currents; Fourier's analysis of periodic non-sinusoidal wave forms, electromagnetic radiation.

616. Advanced Physical Laboratory. Three to twenty-four credit hours. Any Quarter. Two three-hour laboratory periods each week. Prerequisite, one year of college physics. Mr. Heil, Mr. Alva Smith.

This course is intended to give the advanced student in science practice in precise physical measurements, involving the use of high grade mechanical, optical, electrical and thermal instruments.

The work undertaken will be elected from the following topics:

(a) **Mechanics and Heat.** Exact measurements involving determinations of elasticities of solids, moments of inertia, torsional rigidity, torsional hysteresis "g" by physical pendulum, coefficients of viscosity, density of gases and vapors, hygrometry, specific heats, heat values of gases, thermo-electromotive forces, etc.

(b) **Advanced Optical Measurements.** Exact determinations of indices of refraction by means of spectrometers, wavelengths by means of ruled gratings and interferometers, dispersion, polarization, absorption, analysis of spectra, etc.

(c) **Advanced Electrical Measurements.** Exact measurements of currents, resistances, electromotive forces, magnetic permeability, capacity and inductance; transient phenomena involving the determination of time constants of circuits; fundamental alternating current measurements; the use of the oscillograph in the study of alternating and transient currents.

(d) **Advanced Measurements in Ionization and Radioactivity.** Use of electrometers and electroscopes for exact measurement of currents in gases, saturation currents, discharge of electricity and ionizing properties of radioactive materials, absorption of radiation; ionizing properties of flames and incandescent solids; characteristic curves of two and three electrode tubes and applications, photo-electricity, etc.

(e) **Pyrometry and High Temperature Measurements.** Thermo-electric pyrometers, resistance thermometers, optical pyrometers, total radiation pyrometers, temperature recorders and controlling devices, transition points and thermal analysis at high temperatures.

(f) **Acoustics.** Measurements of characteristics of speech sounds, limits of audition, masking effect of different sounds, binaural beats, acuity of hearing, acoustic filters, reflection and absorption of sound, reverberations, resonance in tubes and pipes, velocity of sound in different media.

Any one of the above topics may be selected during any Quarter with the exception of topic (d) which is offered only during the Winter Quarter.

A student may repeat this course until he has obtained a maximum of twenty-four credit hours. Only three credit hours may be taken during any Quarter except during the Summer Quarter, when six credit hours may be obtained. A student may accumulate not more than six credit hours in any one of the above topics.

This course is the same as Physics 602, 603, 604 and 605.

620. X-Rays and Crystal Structure. Four credit hours. Autumn Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Pool.

The production, measurement, and effects of X-rays, including gamma rays; crystal structure and X-ray analysis with applications to chemistry, biology, and metallurgy, the laws of emission, scattering and absorption, and their relation to atomic structure and crystal structure.

621. Acoustics. Four credit hours. Winter Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Knauss.

A discussion of wave motion, forced vibrations; origin, propagation, velocity, interference, diffraction, resonance and energy relations of sound waves; vibration of strings and organ pipes; speech sounds; acoustics of buildings, etc.

622. Thermionics and High Vacuum Phenomena. Four credit hours. Spring Quarter. Four lectures and recitations each week. Prerequisite, Mathematics 443 and three Quarters of college physics. Mr. Heil.

An introductory course in the physical theories of thermionic emission; the discharge of electricity from incandescent solids in gases and high vacua; the effect of space charge and electrode potentials on currents in vacuum tubes; the methods of production and measurement of high vacua; the application of thermionic devices to the rectification of alternating currents and to the production and detection of oscillations; use of thermionic devices for measurement of very low pressures; the applications of multiple electrode tubes to the study of radiation potentials and ionization potentials.

623-624-625. Introduction to Theoretical Physics. Three credit hours. Autumn, Winter, and Spring Quarters. Three lectures and recitations each week. Prerequisite, calculus, elements of differential equations and three Quarters of college physics. Mr. Thomas.

This course is an introductory mathematical survey of the field of theoretical physics with emphasis on the application of mathematical methods to the solution of physical problems. The content of the course is selected from the following topics: dynamics of a particle, dynamics of rigid and deformable bodies, hydrodynamics of perfect and elastic fluids, dynamical theory of gases, electrostatics and electromagnetics transient and alternating currents, electromagnetic waves along wires and in free spaces.

630. Minor Investigations. Three to five credit hours, for one or two Quarters. Autumn, Winter, Spring. Prerequisite, nine Quarter-credit hours of Physics 616, or equivalent; and two of the following theoretical courses: Physics 607, 608, 609, 610, 612 or equivalent. All instructors.

After consulting the instructor in charge, the student may select for investigation a subject in radiation, including X-rays, radioactivity, conduction of electricity through gases, radio communication, electricity and magnetism. Opportunity is also offered to repeat certain classical experiments in physics.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 756.

FOR GRADUATES

NOTE: For courses in the "600" and "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801. Electromagnetic Theory of Light.

803. Thermo-dynamics.

- 804. Thermo-dynamics.
- *805. Theory of Electricity and Magnetism.
- *806. Theory of Electricity and Magnetism.
- *809. Theory of Oscillations.
- *810. Theory of Oscillations.
- *811. Theory of Oscillations.
- 813. Line Spectra and Atomic Structure.
- 814. X-Rays in Theory and Practice.
- 815. X-Rays and the Quantum Theory of Atomic Structure.
- 817. Quantum and Wave Mechanics.
- 818. Quantum and Wave Mechanics.
- 819. Quantum and Wave Mechanics.
- *821. Conduction of Electricity through Gases.
- 824. Statistical Mechanics.
- 825. Applications of Wave Mechanics to Physico-Chemical Phenomena.
- 826. Problems in Astrophysics.
- †827. Selected Topics from Contemporaneous Physics.
- 830-831-832. Research Laboratory.
- 851. Band Spectra and Related Topics.
- 852. Infra-Red Molecular Spectra.
- 950. Research in Astrophysics.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PHYSIOLOGY

Office, 209 Hamilton Hall

PROFESSORS SEYMOUR, BLEILE AND NICE, ASSOCIATE PROFESSOR E. P. DURRANT, ASSISTANT PROFESSORS McPEEK, HITCHCOCK AND HAMLIN, MR. R. R. DURANT, AND ASSISTANTS

407. Elementary Physiology. Five credit hours. One Quarter. Autumn, Winter, Spring. Three hours of lectures or recitations and four hours of laboratory each week. Prerequisite, one Quarter of Chemistry or one unit of high school chemistry. Not open to Freshmen. Mr. Seymour, Mr. Bleile, Mr. Hamlin, and assistants.

A foundation course in the fundamental principles of animal physiology, including the chemical and physical structure of animate matter; the reactions involved in ani-

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

mals, including the human body in responding to environmental conditions; the formation, structure, and functions of blood and lymph; and the fundamental structure of the nervous system with particular emphasis on reflex actions. A survey of the conditions determining the activities of living forms.

Not open to students who have credit for any courses in physiology.

408. Elementary Physiology. Five credit hours. One Quarter. Autumn, Winter, Spring. Three hours of lectures or recitations and four hours of laboratory each week. Prerequisite, Physiology 407 or 419. Not open to Freshmen. Mr. Seymour, Mr. Bleile, Mr. Nice, Mr. E. P. Durrant, Mr. Hitchcock, Mr. Hamlin, and assistants.

Either this course or Physiology 409 may be chosen by the student as a continuation of Physiology 407, or this course may follow Physiology 409 if the student so elects. This course presents the elementary study of respiration, foods, digestion, metabolism and excretion.

Not open to students who have credit for Physiology 404.

409. Elementary Physiology. Five credit hours. One Quarter. Winter and Spring. Three hours of lectures or recitations and four hours of laboratory each week. Prerequisite, Physiology 407 or 419. Not open to Freshmen. Mr. Seymour, Mr. Bleile, Mr. E. P. Durrant, Mr. Hitchcock, Mr. Hamlin, and assistants.

Either this course or Physiology 408 may be chosen as the continuation of Physiology 407. This course may precede or follow Physiology 408. An elementary study of circulation, the organs of internal secretion, the central nervous system, and the special senses.

Not open to students who have credit for Physiology 404.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

615. Advanced Physiology. Five credit hours. One Quarter. Autumn and Spring. Four lecture or quiz periods and six laboratory hours each week. Prerequisite, two Quarters of physiology or equivalent biological training. Mr. Nice, Mr. McPeck, and assistants.

This course deals with the physiology of the contractile tissues, reflexes, autonomic nervous system, lymph, blood and circulation.

Not open to students who have credit for Physiology 601.

616. Advanced Physiology. Five credit hours. Winter Quarter. Four lecture or quiz periods and six laboratory hours each week. Prerequisite, two Quarters of physiology or equivalent biological training. Mr. Nice, Mr. McPeck, and assistants.

A study of respiration, foods, digestion, metabolism, excretion, internal secretions, central nervous system, and special senses.

Not open to students who have credit for Physiology 602.

618. Physiology of Metabolism. Three or five credit hours. Autumn Quarter. Three lecture hours or three lecture and six laboratory hours each week. Prerequisite, three Quarters of chemistry and two Quarters of physiology with laboratory or equivalent biological training. Mr. Hitchcock.

This course deals with both the theoretical and practical aspects of human metabolism as measured by determination of the respiratory exchanges. Some of the more important abnormal variations in the metabolic rate are considered. In the laboratory the student is familiarized with some of the simpler types of apparatus for measuring the metabolic rate.

619. Physiology of Reproduction. Three or five credit hours. Winter Quarter. Three lecture hours or three lecture and six laboratory hours each week. Prerequisite, two Quarters of physiology with laboratory or equivalent biological training. Mr. E. P. Durrant.

This course considers the fundamental phenomena of reproduction in both the simpler and higher forms of living matter. It presents a brief survey of embryonic development, and a study of the mammalian gonads with particular emphasis on their hormonal relations. The laboratory work will be devoted to demonstrating the activities of the gonads and the resulting effects upon body processes.

620. Physiology of Exercise. Three or five credit hours. Spring Quarter. Three lecture hours or three lecture and six laboratory hours each week. Prerequisite, two Quarters of physiology. Mr. Hamlin.

This course considers the nature of muscular activity, muscle strain, staleness, mechanical efficiency, the sources of energy for muscular activity, systemic coordination during exercise, the general benefits accruing from exercise, and the special physiological value of different types of muscular activity.

621. Physiological Technique. Three credit hours. Autumn Quarter. Two conference hours and three laboratory hours each week. Prerequisite, three Quarters of elementary physiology or equivalent biological training. Mr. E. P. Durrant.

A course designed to familiarize the student with the technique of mammalian experimentation. Fundamental experiments in circulation, respiration, digestion, and excretion will be presented as a preparation for advanced mammalian physiology.

622. General Physiology. Five credit hours. Winter Quarter. Three lecture or quiz and four laboratory hours each week. Prerequisite, two Quarters of physiology or equivalent biological training and one Quarter of organic chemistry. Mr. Hitchcock.

This course deals with the fundamental physico-chemical principles involved in the physiological manifestations of life. A study is made of the physico-chemical constitution of living matter, surface tension, diffusion, osmotic pressure, the physiological significance of the colloid state and the part played by electrolytes and ionic concentration in vital phenomena.

Not open to students who have credit for Physiology 406 or 617.

623. General Physiology. Five credit hours. Spring Quarter. Three lecture or quiz and six laboratory hours each week. Prerequisite, same as for 622. It is desirable but not essential that this course be preceded by 622. Mr. Hitchcock.

This course is designed primarily as a continuation of Physiology 622, and presents a study of irritability and contractility, together with a brief comparative study of the circulatory, respiratory, secretory and digestive processes in lower and higher organisms.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801. Research Physiology: Minor.

802. Research Physiology: Minor.

803. Research Physiology: Minor.

804. Research Physiology: Major.

805. Research Physiology: Major.

806. Research Physiology: Major.

815-816-817. Seminary in Physiology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

Office, 100 University Hall

PROFESSORS SPENCER, SHEPARD, AND ODEGARD, ASSISTANT PROFESSORS WALKER AND HELMS, MR. AUMANN, MR. FOSTER, AND ASSISTANT

401. American Federal Government. Five credit hours. One Quarter. Autumn, Winter, Spring. It is strongly recommended that this course be preceded by two Quarters in college history; it must precede all other courses in this department. Not open to Freshmen. All instructors.

A general survey of the Constitution. The organization and functions of the national government. Its relation to the states. Political parties.

402. Government and Politics of Foreign Countries. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Political Science 401 or History 401-402 in sequence. All instructors.

A study of the governments of England, France, Germany, Switzerland, and other countries of chief interest. Special attention will be given to characteristic institutions, such as the English cabinet system, French administrative organization and justice. Swiss direct democracy, proportional representation. The problem of self-government and empire.

403. American State Government. Five credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Political Science 401 and (except by special permission) 402. All instructors.

A general survey of the structure and functions of government in the American commonwealths.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

604. American State Administration. Three credit hours. Spring Quarter. Three meetings each week. Prerequisite, Political Science 403. Mr. Walker.

The organization of state administration; state activities in relation to taxation, business and professions, education, labor, charities and corrections, militia, health, agriculture, conservation of natural resources, highways.

605. Principles of Public Administration. Five credit hours. Autumn Quarter. Five meetings each week. Prerequisite, Political Science 403. Mr. Walker.

A consideration of the general problems of public administration; relations between the administration and the other branches of government—executive, legislative, and judicial; the civil service; personnel administration; budgets and accounting; centralized purchasing.

607. Municipal Government. Five credit hours. One Quarter. Autumn and Spring. Five meetings each week. Prerequisite, Political Science 401 and 402. Mr. Helms.

A comparative study of modern municipalities in the United States and the principal countries of Europe; their social significance; their governmental structure; their relation to the state; the experience with government by council, mayor, commission, and manager; methods of popular participation.

608. Municipal Functions. Three credit hours. Winter Quarter. Three meetings each week. Prerequisite, Political Science 607. Mr. Walker.

Municipal administrative organization; staff and line agencies; activities in safety, fire, health, education, recreation, charities, traffic control, pavements, waste disposal, water supply, street lighting, public utilities.

***609. Municipal Problems.** Three credit hours. Spring Quarter. Three meetings each week. Prerequisite, Political Science 607 and 608. Mr. Walker.

Intensive study of one or more key problems of municipal structure or administration.

615. Administration of Justice. Three credit hours. Spring Quarter. Three meetings each week. Prerequisite, Political Science 401 and 402 or 403. Mr. Aumann.

A study of the nature, purposes and limitations of law as administered through courts. The development, organization and procedure of our judicial system. Recent trends in legal thinking.

***617. Administrative Law.** Three credit hours. Spring Quarter. Three meetings each week. Prerequisite, Political Science 616. Mr. Odegard.

Administrative organization; procedure of administrative bodies; limits of administrative discretion; quasi-judicial and quasi-legislative powers of administrative bodies; relief against administrative action; conclusiveness of administrative findings. Cases and readings.

631. Methods of Governmental Research. Three credit hours. Winter Quarter. Three meetings each week. Prerequisite, Senior standing and permission of the instructor. Mr. Walker.

The materials of political science; history of procedure in political science research; research technique; presentation of results of research.

633. Legislation. Three credit hours. Spring Quarter. Three meetings each week. Prerequisite, Political Science 403. Mr. Walker.

The process of law making in the United States, the constituent process, statute law making, legislative drafting, legislative procedure, judicial review, the common law, executive ordinance, popular law making.

634. Public Opinion and Political Processes. Five credit hours. Autumn Quarter. Five meetings each week. Prerequisite, Political Science 401 and 402 or 403. Mr. Odegard.

A study of the forces which mould the public mind, and of the channels through which public opinion is expressed, viz: the family, the school, the church, the movies, radio, press, pressure groups and propaganda. Lectures and discussion.

* Not given in 1931-1932.

635. Elections and Parties. Five credit hours. Winter Quarter. Five meetings each week. Prerequisite, Political Science 401 and 402 or 403. Mr. Odegard.

A study of voting qualifications, ballot forms, the direct-primary and other forms of nomination, systems of proportional representation, the organization and methods of political parties, and the position and function of the party system in democracies.

705-706-707. Honors Courses. Three to five credit hours. Autumn, Winter, and Spring Quarters. Informal conferences, the intent being to allow full scope to the initiative of the student. Prerequisite, Senior standing and forty hours of credit in the social sciences, including fifteen hours in political science, with the record of "A" in at least half of the Political Science courses and an average of "B" in the remainder. At least two Quarters required of candidates for the degree of Bachelor of Arts with Distinction in Political Science. All instructors.

A special topic is assigned to each student each Quarter, and results are tested by the requirement of theses and special examinations. Failure to receive a grade of "B" in this course is a disqualification for special honors.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Research in Political Science.

PRACTICAL ARTS AND VOCATIONAL EDUCATION

Office, 212 Industrial Engineering Building

PROFESSOR STONE, ASSOCIATE PROFESSORS WARNER AND SMITH,
AND ASSISTANTS

There is opportunity in this department for men and women to major or minor in Commercial Education and in Industrial Arts and Vocational Education including Guidance; or to secure preparation in specific phases as outlined below:

- I. Teaching and Supervising Practical Arts Education in Elementary Schools: 541, 623, 655.
- II. Commercial Education:
 - A. Subject matter courses in Accounting, Commercial Geography, Office Practice, Retail Selling, and Journalism (in cooperation with the College of Commerce and Administration).
 - B. Teaching and Supervision of Commercial subjects in the Junior and Senior High School: 660, 663, 665, 667.
- III. Industrial Arts and Vocational Education:
 - A. Teaching Industrial Arts and Vocational Industrial Education in the Junior or Senior High and Vocational School: 480, 600, 608, 680.
 - B. Laboratory of Industries: 400, 430.
 - C. Special Laboratory or Shop courses in
 1. Wood and Cabinet work, 409, 411, 413.
 2. Drawing (in cooperation with the Departments of Fine Arts, Engineering Drawing, Architecture, and Civil Engineering).
 3. Machine Shop Practice, Foundry, Forging, Sheet Metal Work, and Pattern Making (in cooperation with the Department of Industrial Engineering).

4. Electricity (in cooperation with the Department of Electrical Engineering).
5. Ceramics (in cooperation with the Departments of Fine Arts and Ceramic Engineering).
6. Printing (in cooperation with the Department of Journalism and the University Press).

D. Vocational Continuation Education: 609, 640.

IV. Administration and Supervision of Industrial Arts and Vocational Education: 625, 650-651-652.

V. Administration and supervision of Commercial Education: 650-651-652, 665.

VI. General Shopwork Related to the Farm: 510.

VII. Project Design in Various Industrial Arts and Vocational Activities: 450, 452.

VIII. Guidance, Occupational Studies, and Occupational Counseling: 470, 607, 610.

IX. Research in Practical Arts and Vocational Education: 800, 801-802-803, 804.

NOTE: Women students should be especially interested in the broad command of industrial and household information and skills available through courses 400, 409-411-413, 541 and 655.

NOTE: Provisions are now made (in cooperation with other colleges and departments on the campus) for advanced work leading to the degrees of Master of Arts and Doctor of Philosophy with a major in Commercial, Industrial Arts, or Vocational Industrial Education, under general provisions detailed in the Bulletin of the Graduate School.

400. The Laboratory of Industries. Five credit hours. Autumn Quarter. One lecture and four three-hour laboratory periods each week. Required of all students whose major or minor is Industrial Arts and Vocational Industrial Education. Mr. Warner and assistants.

Introductory course. Orientation in various industries through visitation, reading, discussion, experimentation, and participation in projects chiefly characteristic of wood-working, pattern making, molding, forging, metal working, sheet metal, printing, automobiles, ceramics, household mechanics, concrete construction, electricity, drawing, and blueprinting, leather work, and art metal. Especially significant to teachers of the Laboratory of Industries in junior high and continuation schools.

Not open to students who have credit for Industrial Arts Education 400.

409-411-413. Wood and Cabinet Work. Five credit hours. 409, Winter Quarter; 411, Spring Quarter. Five three-hour periods each week for lecture and laboratory. Required of Industrial Arts and Vocational Industrial Education students who elect the field of concentration in wood and cabinet work. Mr. Warner, Mr. Smith, and assistants.

Designed for both men and women. Preparation is given in knowledge and skills relating to woods and woodworking tools and machines. Projects increase in difficulty and include activities in joinery, turning, carving, finishing and refinishing, upholstering, caning, art-fiber work, cabinet and furniture construction.

These courses are open for credit limited by work done by students in Industrial Arts Education 410-412-414-416. They are not open to students who have credit for Industrial Arts Education 409-411-413.

430. Problems of Planning the Laboratory: Equipment, Maintenance and Supplies. Three credit hours. Spring Quarter. One lecture and two three-hour laboratory periods each week. Required in Industrial Arts and Vocational Industrial Education. Prerequisite, Junior standing or permission of the instructor. Mr. Smith.

A consideration of problems and standards involved in planning rooms, and in the design, location, installation and care of equipment in the various high school industrial

† Not given during the academic year, 1931-1932.

arts laboratories and vocational shops. What should go into a laboratory or shop and why. Training in tool grinding, saw filing, brazing, belt lacing, and other phases of maintenance and shop management.

Not open to students who have credit for Industrial Arts Education 430.

†450. Project Design. Three credit hours. Spring Quarter. One lecture and two three-hour laboratory periods each week. Required in Industrial Arts and Vocational Industrial Education. Prerequisite, Engineering Drawing 401. Mr. Smith.

Design of projects involving different industrial materials which are suitable for construction in the general industrial arts laboratory of the junior high school or in the specialized classes of the junior-senior high and vocational school. A consideration of materials, contours, enrichment, construction, and utility of projects.

Not open to students who have credit for Industrial Education 521 or Industrial Arts Education 450.

452. Advanced Project Design. Three credit hours. Spring Quarter. One lecture and two three-hour laboratory periods each week. Required in Industrial Arts and Vocational Industrial Education. Prerequisite, Engineering Drawing 436 and Practical Arts and Vocational Education 450 or the equivalent. Mr. Smith.

This course continues the work of 450, adding a study of period style furniture, with a consideration of harmony and unity in furnishings. Laboratory consists of more advanced work in the design of projects involving wood, metal, clay, etc.

Not open to student who have credit for Industrial Arts Education 452.

470. Fundamentals in Guidance. Three credit hours. One Quarter. Autumn, Winter, Spring. Three recitation periods each week. Elective in the College of Education. Required of all students majoring or minoring in this department. Prerequisite, Psychology 401 and Sophomore standing. Mr. Stone.

Basic course in guidance. Origin and development; leaders and notable examples of guidance programs. Phases, purposes, and techniques upon various educational levels. Special emphasis upon the life-career motive as an integrating force in education. A course for all teachers since all teachers contribute to guidance.

Not open to students who have credit for Vocational Education 606.

480. Special Methods in Industrial Arts and Vocational Industrial Education. Three credit hours. Autumn Quarter. Three recitation periods each week. Required in Industrial Arts and Vocational Industrial Education. Mr. Warner.

An examination of the general and specific purposes of teaching shop work, followed by a study of methods and problems of organization and teaching of a variety of laboratory subjects including observations, demonstrations and the actual preparation of course materials.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

† Not given during the academic year 1931-1932.

510. Shopwork Related to the Farm. Five credit hours. Winter Quarter. Five three-hour periods each week for lecture and laboratory. Mr. Smith and assistants.

This course is designed for students who expect to teach Smith-Hughes classes in Agriculture. Projects involve tools, materials, and operations typical of the farm; elementary carpentry, cabinet-making, and mechanics; rope tying and splicing; soldering. This course should interest any student who desires an acquaintance with farm shop fundamentals.

Not open to students who have credit for Industrial Arts Education 510.

541. Practical Arts Laboratory for Teachers in Elementary Schools. Three credit hours. Winter Quarter. Two three-hour periods each week for lecture and laboratory. Required of students in Elementary Education and students in Industrial Arts Education who elect the major Practical Arts in Elementary Schools. Mr. Warner.

A laboratory course involving the use of tools and materials which enter into an activity curriculum in elementary schools. These activities deal with materials, processes, and products through which society supplies its needs for food, clothing, shelter, utensils, records, and transportation.

Not open to students who have credit for Industrial Arts Education 541.

600. Introduction to Practical Arts and Vocational Education. Three credit hours. One Quarter. Autumn, Winter, Spring. Three recitation periods each week. Required of all men students in the College of Education, and of all students with a major or minor in this department. Mr. Stone, Mr. Warner.

Practical Arts and Vocational Education in the general curriculum. Brief historical resume, emphasizing present status and trends of practical phases of education as a motivating, activating means to integration and command of fundamentals in the elementary grades; a differentiating, exploratory medium in the junior high school; prevocational and vocational preparation in the senior high and vocational schools. Terminology, leaders, principles.

Not open to students who have credit for Industrial Arts Education 600.

607. Occupational Counseling. Two credit hours. Winter Quarter. Two recitations each week. Elective in the College of Education. Prerequisite, Practical Arts and Vocational Education 470. Mr. Smith.

Practical problems connected with occupational guidance and placement. Counseling with pupils, parents, and employers. Survey of guidance materials and of the counselor's technique in the use of these materials. Case studies.

Not open to students who have credit for Vocational Education 607.

608. Subject Matter and Method in the Laboratory of Industries. Three credit hours. Winter Quarter. Three recitation periods each week. Mr. Warner.

Principles and practice in defining specific objectives, and in selecting and organizing the subject matter and activities of a laboratory of industries in the general continuation and junior high schools. Diagnosis of the pupil in his relation to the processes, products, and occupations of industry.

Not open to students who have credit for Industrial Arts Education 608.

†609. Principles of Part-time Education. Two credit hours. Required in the Vocational Continuation curriculum.

An introductory course consisting of a study of types of part-time education and the aims and purposes of each.

Not open to students who have credit for Vocational Education 602.

610. Occupational Studies in High and Continuation Schools. Three credit hours. Spring Quarter. Three recitation periods each week. Prerequisite, permission of the instructor. Mr. Stone.

A course designed especially for teachers of occupations in junior and senior high and continuation schools. Attention is given to the development of a technique for gathering, evaluating, and presenting significant occupational data, to the end that youth may become self-reliant in occupational study and choice.

Not open to students who have credit for Industrial Arts Education 610.

†623. The Teaching and Supervision of Practical Arts in the Elementary School. Three credit hours. Prerequisite, permission of instructor.

For teachers and supervisors in all phases of elementary education who wish to use practical arts in an activity curriculum. Criteria for selecting and practice in developing different types of activities and projects. Plans of organizing and methods of supervising these activities.

Not open to students who have credit for Industrial Arts Education 623.

625. Administration of Industrial Arts and Vocational Education. Three credit hours. Autumn Quarter. Prerequisite, Senior standing or permission of instructor. Mr. Stone.

Relation of Industrial Arts and Vocational Education to the general curriculum and the administrative responsibilities entailed. Courses of study; laboratory and shop provisions in building plans; equipment; relative costs; co-ordination problems; class and shop organization, and the development of an effective program of supervision. Selection of teachers and their improvement in service.

Not open to students who have credit for School Administration 627 or Industrial Arts Education 625.

†640. Subject Matter and Method in Vocational Part-time and Continuation Schools or Classes. Three credit hours. Vocational Continuation, fourth year.

Determination of subject matter and method suitable for meeting the needs of continuation school pupils. Detailed study of the coordination and instructional problems peculiar to continuation school work.

Not open to students who have credit for Vocational Education 504-505.

650-651-652. Minor Problems in Practical Arts and Vocational Education. One or more credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, twenty-five hours in Practical Arts and Vocational Education, or permission of instructor. Mr. Stone and other members of the staff.

This course offers opportunity for intensive study or investigation of specific phases of Practical Arts and Vocational Education. Appropriate topics are found in the curricu-

† Not given during the academic year, 1931-1932.

lum; laboratory or shop equipment; student records; building standards; design; correlation of courses; standards of rating for teachers and students; and other problems of organization, administration, supervision, or instruction.

By permission of the Chairman of the Department and the Director of the Bureau of Educational Research, students enrolled in this course may obtain credit for research work done under the auspices of the Bureau staff.

†655. **Practical Arts Laboratory for Teachers in Elementary Schools.** Three credit hours. Prerequisite, Practical Arts and Vocational Education 541, or permission of instructor.

A continuation of Practical Arts and Vocational Education 541 upon graduate level.

†660. **Principles of Commercial Education.** Three credit hours. Three recitations each week. Required in curricula for commercial teachers.

For teachers of commercial subjects in the junior or senior high school. Meaning, purpose and scope of commercial education in secondary schools. Importance of and procedure in making occupational surveys in the field of commercial education.

Not open to students who have credit for Vocational Education 605.

†663. **Subject Matter and Methods in Commercial Education.** Three credit hours. Three recitation periods each week. Required in commercial curricula in the Senior year.

Survey and analysis of different commercial occupations and determination of the educational needs of persons in such occupations. Types of commercial curricula and courses of study. Principles of teaching applied to standard commercial subjects.

Not open to students who have credit for Vocational Education 507 and Principles of Education 485.

†665. **Administration and Supervision of Commercial Education.** Three credit hours.

A course designed for administrators and supervisors of commercial education in the junior and senior high school. Courses of study; laboratory facilities; selection and improvement of teachers in service; and other major executive problems.

†667. **Subject Matter and Method in the Laboratory of Commerce.** Three credit hours.

A professional subject-matter course for teachers of Commercial Arts (sometimes designated also General Business Science or Junior Business Training) typically in junior high and general continuation schools, for major purposes of commercial culture, exploration, and guidance.

680. Occupational Analysis and Organization of Subject Matter in Industrial Arts and Vocational Industrial Education. Three credit hours. Winter Quarter. Three recitation periods each week. Mr. Smith.

Principles and practice in defining specific course objectives. Technique of analysis applied to various occupations for the selection of facts and activities conducive to desirable knowledge, skills, and behavior; and the organization of such materials into integrated courses of study. Teaching plans.

Not open to students who have credit for Industrial Arts Education 606 or Vocational Education 502.

NOTE: To meet requirements in Observation and Participation and Supervised Teaching, students who are majoring in Practical Arts in the Elementary School register in Principles of Education 430 and 441 in the Spring Quarter of the fourth year; others majoring in Commercial, Industrial Arts, and Vocational Education register in Principles of Education 410 and 440 in the Spring Quarter of the fourth year.

† Not given during the academic year 1931-1932.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be registered in any course in the "800" group except by permission of the Graduate Council.

†800. Research in the Laboratory of Industries.

801-802-803. Scientific Studies in Practical Arts and Vocational Education.

804. Major Research Problems in Practical Arts and Vocational Education.

For description of graduate courses in this department, see Bulletin of the Graduate School.

PRINCIPLES AND PRACTICE OF EDUCATION

Office, 115 Education Building

PROFESSORS BODE, TWISS, BRIM, PAHLOW, AND SEELY, ASSOCIATE PROFESSORS LANDSITTEL, ZIRBES, ALBERTY, AND HULLFISH, ASSISTANT PROFESSORS BRONSKY, THARP, AND FULLINGTON, MR. MARPLE, MR. WYMAN, AND ASSISTANTS

The courses in this department fall into three general groups. The suggested sequences listed below are offered for the guidance of students desiring a consistent program giving preparation in one of these fields. It is suggested, however, that students contemplating such work consult with the department before undertaking the sequence offering in any one of these fields. This is particularly the case with graduate students. Undergraduates who are looking forward to the Ph.D. degree are advised to acquire a reading knowledge of French and German during the undergraduate period.

Prerequisite for all courses in the Department: Principles of Education 401 (required in the College of Education).

Recommended Sequences of Courses:

I. General Theory:

(a) 401, 620, 682, 683, 640; (b) 401, 620, 601, 605, 680, 640.

It may be desirable, in the case of special interests, to select from both sequences. Graduate students majoring in this field will be expected to take three Quarters of seminar work (selected from 801-802-803-804) as part of their major for the M.A. degree or as part of their minor for the Ph.D. degree.

II. Principles and Practice of Secondary Education:

401, 410, 606, the teaching courses required in the major field (as 700 and 663 in the social studies, for instance), 410, 440, 610, 625.

Graduate students training for the position of supervisor or principal in the high school are advised to include the following courses in their offering: 610, 620, 625, 640, 680, 683, 810, 812, 813.

III. Principles and Practice of Elementary Education:

(a) Teachers in the Elementary Schools:

401, 406, 492, 493, 494, 495, 496, 499, 430, 441, Music 447 and 448, Fine Arts 570, Practical Arts and Vocational Education 541.

(b) Supervisors and Principals of Elementary Schools:

620, 640, 683, 612, 613, 614, 615, 623. Graduate students majoring in this field will be expected to take three Quarters of seminar work (selected from 824-825-826-827, 840 as part of their major for the M.A. degree or as part of their minor for the Ph.D. degree.

(c) Elementary Teacher Training:

620, 640, 683, 616, 633, 634. Graduate students majoring in this field will be expected to take three Quarters of seminar work (selected from 824-825-826-827, 840 as part of their major for the M.A. degree or as part of their minor for the Ph.D. degree.

† Not given during the academic year 1931-1932.

401. Principles of Education. Four credit hours. One Quarter. Autumn, Winter, Spring. Three lectures and one quiz section each week. Required in the College of Education. Prerequisite, five Quarters of university work. Mr. Bode, Mr. Hullfish, and assistants.

An inquiry into the meaning of education, the nature and function of ideals, and the nature of the thinking process in its bearing on educational procedure.

Not open to students who have credit for Principles of Education 301, 302, 402, or 403.

406. Contemporary Elementary Educational Practice. Three credit hours. Winter Quarter. Required in curriculum for elementary teachers. Prerequisite, Principles of Education 401. Mr. Brim.

Elementary school practice is changing rapidly and fundamentally. This course provides an opportunity for a critical study of this change and an evaluation of the newer practice in terms of progressive theory. Students in this course will have close contact with progressive practice.

410. Principles and Methods of Secondary School Teaching. Four credit hours. One Quarter. Autumn, Winter, Spring. Open only to students in the College of Education. Prerequisite, Junior standing in the College of Education, Principles of Education 401 and a course in educational psychology. This course must be taken as a prerequisite to, or concurrently with, the teaching courses required in the major field (Principles of Education 700 and 663 in the social studies, for example), and as a prerequisite to Principles of Education 440 by students doing supervised teaching in English, social studies, foreign language, mathematics, science, and practical arts and vocational education. Mr. Alberty, Mr. Hullfish.

A study of the principles of secondary education; general methods of teaching; observation and criticism of classroom work in the secondary school.

Not open to students who have credit for Principles of Education 312, 313, 411, or 412.

430. Principles and Methods of Elementary School Teaching. Five credit hours. Spring Quarter. Curriculum for Elementary Teachers, fourth year. Prerequisite, Principles of Education 401. This course must be taken concurrently with Principles of Education 441. Miss Bronsky.

This course is designed to accompany supervised teaching, and on the basis of direct classroom contacts thus furnished, to extend and integrate the benefits of professional courses previously taken. Problems of management and method will be dealt with in a manner calculated to develop in the student capacity for intelligent professional reaction to the teaching situation.

Not open to students who have credit for Principles of Education 303.

440. Supervised Teaching in Secondary Schools. Seven credit hours. One Quarter. Autumn and Spring. Required in the College of Education. Prerequisite, Senior standing in the College of Education, Principles of Education 401, Principles of Education 410 for students who expect to do supervised teaching in English, the social studies, foreign languages, mathematics, science, and practical arts and vocational education; the teaching courses required in the major field (Principles of Education 700 and 663 in the social studies, for example) and an average point-hour ratio of 2.25 in the major as stated in the note below. Open

only to students in the College of Education. Mr. Alberty, Mr. Pahlow, Mr. Landsittel, Mr. Twiss, Mr. Seely, Mr. Sharp, Mr. Fullington.

Observation, participation, supervised teaching and conferences.

NOTE: An average point-hour ratio of 2.25 in the major subject on all courses taken at this University after the Summer Quarter 1928 will be required for admission to supervised teaching (Principles of Education 440), except that students transferring to the College of Education after the Summer Quarter of 1928 must fulfill the 2.25 point-hour average on all courses in the major field taken at this University regardless of the Quarter in which such courses were elected. Students transferring from other institutions and requesting credit for Principles of Education 440 will be required to fulfill the 2.25 point-hour ratio before such credit shall be granted. Application of the rule to transferred students shall terminate at the close of the Quarter preceding the Quarter of graduation.

Students registering for this course should report to the office of the Department of Principles of Education immediately after their schedules have been approved, and fill out a supervised teaching placement card. Preliminary meeting of all students for placement and general instruction purposes, 100 Commerce Building, at 4:00 p. m., September 28, 1931.

441. Supervised Teaching in Elementary Schools. Ten credit hours. Spring Quarter. Curriculum for Elementary Teachers, fourth year. Prerequisite, Senior standing in the College of Education, Principles of Education 401, and an average point-hour ratio of 2.25 on all courses taken at this university after the end of the Sophomore year. This course is open only to students in the College of Education. This course must be taken concurrently with Principles of Education 430, except by special permission. Miss Bronsky.

Students will be expected to devote their full time, under the supervision of the University instructor in charge, to this course and Principles of Education 430.

NOTE: An average point-hour ratio of 2.25 on all courses taken at this University after the end of the Sophomore year will be required for admission to supervised teaching (Principles of Education 441). Courses taken prior to the Summer Quarter 1928 will not be included in the determination of this average, except in case of persons who have transferred to the College of Education since the Summer Quarter of 1928. Students transferring from other institutions and requesting credit for Principles of Education 441 will be required to fulfill the 2.25 point-hour ratio before such credit shall be granted. Application of the rule to transferred students shall terminate at the close of the Quarter preceding the Quarter of graduation.

NOTE: For Music 447, two credit hours, and 448, three credit hours, The Teaching of Elementary School Music, see page 180.

NOTE: For Fine Arts 569, Art Structure in Elementary Teaching, five credit hours, and Fine Arts 570, Art Problems for Elementary Teachers, five credit hours, see page 134.

NOTE: For Practical Arts and Vocational Education 541, Practical Arts laboratory for teachers in the elementary schools, three credit hours, see page 221.

†473. Teaching Nature Study and Science in the Elementary School. Three credit hours. Prerequisite, Principles of Education 401 or maturity and experience satisfactory to the instructor.

Relation of nature environment and elementary science to child education. Possible resources and ways and means of using them in the work of the school.

Not open to students who have credit for Principles of Education 320. Elective in the College of Education.

† Not given during the academic year, 1931-1932.

492. The Teaching of Arithmetic in the Elementary Schools. Three credit hours. Autumn Quarter. Required in the curriculum for Elementary Teachers, third year. Prerequisite, Principles of Education 401. Miss Bronsky.

The newer methods of teaching arithmetic in the first six grades, the principles upon which they are based, the influence of scientific studies upon the courses of study and methods. Organization of lessons. Opportunity for observation of progressive methods.

Not open to students who have credit for Principles of Education 304.

493. Teaching the English Studies in the Elementary School. Three credit hours. Autumn Quarter. Required in the curriculum for Elementary Teachers, third year. Prerequisite, Principles of Education 401. Miss Zirbes.

A consideration of modern trends in the teaching of reading, study habits, oral language, composition, and spelling involving a study of the practical bearings of investigation, and progressive theory on the improvement of current practice in the teaching of all phases of English in the elementary school.

Not open to students who have credit for Principles of Education 305.

494. Teaching the Social Studies in the Intermediate Grades. Three credit hours. Autumn Quarter. Required in the curriculum for Elementary Teachers, third year. Prerequisite, Principles of Education 401, Geography 401 and five hours of United States History. Mr. Landsittel.

This course considers the significance of the social studies in modern education; ways and means of integrating history, geography and civics; reasons for combining them; contributions of research to selection of subject matter, organization of work, and methods of teaching.

Not open to students who have credit for Principles of Education 306.

495. Teaching the Primary Grades. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Principles of Education 401 or maturity and experience satisfactory to the instructor. Miss Bronsky.

This course deals with the organization, equipment, curriculum and methods of instruction in the primary grades. Opportunity will be afforded for observation in the Home Economics Nursery School and in the University Elementary School.

Elective in the College of Education.

Not open to students who have credit for Principles of Education 316.

496. Teaching the Social Studies in the Primary Grades. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Principles of Education 401, Geography 401 and five hours of United States History, or maturity and experience satisfactory to the instructor. Miss Bronsky.

A consideration of the objectives for social studies in the primary grades, of suitable subject matter, and of techniques. Opportunity afforded for observation in the University Elementary School.

Not open to students who have credit for Principles of Education 319.

499. Teaching Children's Literature. Three credit hours. Autumn Quarter. Three lectures each week. Required in the curriculum for teachers, supervisors, and principals in elementary schools, third year. Miss Bronsky.

A study from the literary and educational points of view of the best literature for elementary school children. Various types will be considered, including folk litera-

ture, fiction, poetry, drama, and subject matter books. Special attention will be given to the literature of the twentieth century. Emphasis will be placed upon the development of standards for selecting materials with reference to the interests and tastes of children at different age levels.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Moral Ideals in Education. Three credit hours. Winter Quarter. Prerequisite, Senior standing in the College of Education, or twenty-five Quarter hours in educational subjects, philosophy or psychology. Mr. Hullfish.

A consideration of types of moral ideals, of the relation of moral values to school subjects, and of the question of direct and systematic moral instruction in the schools.

Not open to students who have credit for Principles of Education 350.

***605. Cultural and Vocational Ideals in Education.** Three credit hours. Winter Quarter. Prerequisite, Senior standing in the College of Education or twenty-five Quarter hours in educational subjects, philosophy, or psychology.

A study of cultural and vocational aims, with reference to their historic background and contemporary opinion, and to their significance for a democratic society.

Not open to students who have credit for Principles of Education 352.

***606. Problems of Junior High School Teaching.** Three credit hours. Winter Quarter. Prerequisite, Principles of Education 401 (or 301 and 302), a course in educational psychology, and five additional hours in educational subjects. Mr. Landsittel.

The reorganization movement in secondary education with special reference to the junior high school. Preservation of essential community of experience. Supervised study. The problem-project method of approach. The effect of the exploration objective in the junior high school on habits of study and scholastic attainments.

Not open to students who have credit for Principles of Education 420, 421, 422, 314, 315, 351 or 353.

610. Supervision of Teaching in Secondary Schools. Three credit hours. Spring Quarter. Open to Seniors in the College of Education or to graduate students whose major or field of specialization is in education; practical teaching experience of at least two years is a further prerequisite. Persons of maturity and experience who have not the prerequisite may be admitted by permission of the instructor. Mr. Alberty.

The problems involving cooperation between supervisors and teachers. Approved practices in the supervision of classroom work and the evaluation of methods and results.

Not open to students who have credit for Principles of Education 357 or 358.

612. Scientific Studies in Elementary Education. Three credit hours. Spring Quarter. Open to Seniors in the College of Education or to graduate students whose major or field of specialization is in education. Other persons of maturity and experience may elect the course by permission of the instructor. Miss Zirbes.

This course will survey and evaluate published researches in this field for the purpose of noting the contributions of research to the changing points of view and

* Not given in 1931-1932.

practices of elementary education and of developing a background for the attack on unsolved problems.

Not open to students who have credit for Principles of Education 374.

613. Supervision of Elementary School Teaching. Three credit hours. Spring Quarter. Open to Seniors in the College of Education or graduate students whose major or field of specialization is in education. Other persons of maturity and experience may elect the course by permission of the instructor. Mr. Brim.

The distinctive function of supervision, the problems involved, the requirements for efficiency in supervision, the methods of diagnosis and evaluation of teaching and learning procedure, ways and means of improving instruction, maintaining teacher morale, and stimulating cooperative work.

Not open to students who have credit for Principles of Education 360 or 361.

614. Curriculum Construction in Elementary Education. Three credit hours. Winter Quarter. Open to Seniors in the College of Education or graduate students whose major or field of specialization is in education. Other persons of maturity and experience may elect the course by permission of the instructor. Mr. Brim.

This course is concerned primarily with the revision of elementary curricula in the light of modern educational principles and objectives, the data contributed by research, and the best current practices as found throughout the country.

615. Experimental Elementary Schools. Three credit hours. Winter Quarter. Open to Seniors in the College of Education or graduate students whose major or field of specialization is in education. Other persons of maturity and experience may elect the course by permission of the instructor. Mr. Brim.

A study of the attempt to demonstrate and test the different educational theories in elementary schools throughout the country. These schools will be studied and evaluated in relation to principles.

Not open to students who have credit for Principles of Education 370.

616. Elementary Teacher Training. Four credit hours. Spring Quarter. Open to Seniors in the College of Education or graduate students whose major or field of specialization is in education. Other persons of maturity and experience may elect the course by permission of the instructor. Miss Bronsky.

A study of the function, content, and organization of courses of study designed to contribute toward the training of teachers for elementary schools. Standards of organization and training, means of capitalizing subject-matter courses, the interrelations of professional courses, and direction of observation and practice teaching will receive special consideration.

620. Conceptions of Mind in Educational Theory. Three credit hours. Winter Quarter. Prerequisite, Senior standing in the College of Education or twenty-five Quarter hours in educational subjects, philosophy or psychology. Mr. Bode.

A study of the doctrines of mind that have exercised a determining influence upon educational theory and practice.

Not open to students who have credit for Principles of Education 354.

623. Directed Observation of Elementary Teaching. One credit hour. Winter and Spring Quarters. Six lectures and twelve hours of observation. Open to Seniors in the College of Education. Persons of maturity and experience who have not this prerequisite may elect the course by permission of the instructor. Miss Zirbes and a staff member of University Elementary School.

This course is offered for teachers, supervisors, principals, and others who wish to study and discuss modern elementary school practice at first hand.

NOTE: For Practical Arts and Vocational Education 623, Teaching and Supervision of Practical Arts in the Elementary School, three credit hours, see page 222.

624. Practicum in Elementary Education. Two credit hours. Autumn and Spring Quarters. Two conferences each week. Participation in special projects and investigations, with reports. Open to principals and teachers in service by permission of the instructor. Mr. Brim, Miss Zirbes.

The work will center about ways and means of improving instruction through actual attack on selected classroom problems.

625. Problems of Curriculum Construction in Secondary Education. Three credit hours. Autumn Quarter. Open to Seniors in the College of Education or to graduate students whose major or field of specialization is in education. Persons of maturity and experience who have not the prerequisite may be admitted by permission of the instructor. Mr. Alberty, Mr. Landsittel.

A critical survey of the tendencies which have determined the character and content of the secondary school curriculum and an evaluation of present procedures in curriculum construction.

Not open to students who have credit for Principles of Education 362 or 363.

This course is a prerequisite to School Administration 818. Principles of Education 625 should be followed by School Administration 818 by all students preparing for secondary school principalships, and by others interested in the administrative problems of the secondary school curriculum.

†633. Supervision of Student Teaching in Elementary Schools. Three credit hours. Open to Seniors in the College of Education or to graduate students whose major or field of specialization is in education.

This course is intended for actual or prospective teachers in teacher training institutions and will deal specifically with the problems of observation, participation and student teaching. Effective means for directing observation, guidance of supervised teaching, and methods of strengthening the young teacher through conferences will be considered.

Not open to students who have credit for Principles of Education 616 or 376.

†634. Professionalized Subject Matter Courses in Teacher Training Institutions. Three credit hours. Open to Seniors in the College of Edu-

† Not given during the academic year, 1931-1932.

cation or to graduate students whose major or field of specialization is in education.

This course is intended for actual or prospective teachers of elementary school subjects in teacher training institutions. A study will be made of the movement to reorganize and enrich methods courses in the normal schools. Consideration will be given to the nature and criteria of professionalized subject matter courses and to constructive procedures in planning such courses in the elementary school subjects.

Not open to students who have credit for Principles of Education 616 or 376.

640. Modern Tendencies in Education. Three credit hours. Spring Quarter. Prerequisite, Senior standing in the College of Education or twenty-five Quarter hours in educational subjects, philosophy, or psychology. Mr. Bode.

A discussion of current doctrines and controversies, in the light of their historic background and their philosophical implications.

Not open to students who have credit for Principles of Education 356.

643. Theories of Interest in Education. Three credit hours. Winter Quarter. Prerequisite, Senior standing in the College of Education or twenty-five Quarter hours in educational subjects, philosophy, or psychology. Mr. Alberty.

The role of interest in modern educational procedure, with special reference to the historical development and present interpretations of the project method of teaching.

645. Social Education. Three credit hours. Spring Quarter. Wide readings, papers, lectures, and discussions. Prerequisite, Senior standing in the College of Education or twenty-five Quarter hours in educational subjects, philosophy or psychology. Students electing this course may offer Sociology 401 as part of the twenty-five hours of prerequisite. Students who have had no sociology are urged to take Sociology 401 concurrently with this course. Mr. Lumley.

An examination of educational agencies and processes other than those of the school, which contribute to the enlightenment and socialization of the individual. An analysis of childhood's isolation, the methods of communication and control, the influence of the family, the playgrounds, the industrial organization, the church and the state.

***646. The Teaching of Ideals.** Two credit hours. Mr. Charters.

This course deals with the techniques of character development in the schools. It treats of motivation, habit formation, reasoning and problem solving, behavior, and the integration of character.

The study of comprehensive collections of published and unpublished material currently used in the schools of the nation will be an integral part of the course.

651. Minor Problems. One to four credit hours. Autumn, Winter, and Spring Quarters. Before registering for this course students must secure the permission of the instructor. Mr. Bode and others.

Investigation of minor problems in the field of principles and practice of education.

By permission of the Chairman of the Department and the Director of the Bureau of Educational Research, students enrolled in this course may obtain credit for research work done under the auspices of the Bureau staff.

When registering for this course the student should indicate, on the appropriate stub of his class card, the field of his special interest or the name of the professor under whose direction he wishes to work.

* Not given in 1931-1932.

†654. **Principles and Methods of Teaching the Mentally Retarded.** Three credit hours. Prerequisite, Psychology 609 or consent of the instructor.

A critical study of the various methods which are used in teaching the mentally retarded. Opportunity for observation in the demonstration class for mentally retarded children.

†655. **Principles and Methods of Teaching Behavior Problem Children.** Three credit hours. Prerequisite, Psychology 609 or consent of the instructor.

A critical study of principles and methods used in the adjustment of behavior problem children. Opportunity for observation in the demonstration class for behavior problem children.

656. **Supervised Teaching in Special Classes.** Five credit hours. Spring Quarter. Prerequisite, Principles and Practice of Education 441, Psychology 609, or consent of the instructor. Students should consult the instructor before enrolling in this course.

Practice teaching for qualified students in classes for the mentally retarded, for behavior problem children, or for the defective in speech.

Students will be expected to devote one-third of their time, under the supervision of the University instructor in charge, to this course.

660. **Problems and Methods of the Natural Sciences.** Four credit hours. Autumn Quarter. Prerequisite, a total of twenty hours in physics or chemistry or twenty hours in physics and chemistry. Mr. Twiss.

Students in the College of Education who are majoring in any of the non-biological sciences must secure credit for four hours of work in Principles of Education 660, 661, 364, 365, 382, 383. These courses are elective for other students in the College of Education, and for the students in the other colleges.

This is a course of illustrated lectures, readings, projects, and reports, for the orientation of science teachers—to supply them with a background for their specialized knowledge, and for the selection and organization of subject matter for teaching uses. It consists of historical, biographical, and analytical studies of selected outstanding achievements in typical fields of discovery and invention, their genesis, their development, and their inter-relations with other events and factors of human progress. The events and discoveries considered are selected mostly from the domains of astronomy, physics, astrophysics, and the scientific foundations of public health.

Not open to students who have credit for Principles of Education 364 or 365.

661. **Problems and Methods of the Natural Sciences.** Four credit hours. Spring Quarter. Prerequisite, twenty hours in physics or chemistry, or twenty hours in physics and chemistry. Mr. Twiss.

This course is a continuation of Principles of Education 660, but is not dependent on it. The events and discoveries considered are selected mostly from the domains of geology, anthropology, chemistry and applied physics.

Not open to students who have credit for Principles of Education 382 or 383.

662. **Teaching Literature in the High School.** Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures each week. Open to students majoring or minoring in English who have reached the third Quarter of their Junior year. Prerequisite, six Quarters in English and

† Not given during the academic year, 1931-1932.

Public Speaking 459. Students who intend to do supervised teaching in English (Principles of Education 440) must have Principles of Education 662 (340 and 341) and 714 as prerequisites. Mr. Seely, Mr. Fullington.

Emphasis will fall upon the selection of suitable poetry, drama, prose, fiction, etc., for junior and senior high school pupils; developing methods for their presentation and study; and suggesting means for correlating the work in literature with the other high-school studies.

Not open to students who have credit for Principles of Education 340 and 341.

663. Organizing History for the Classroom. Five credit hours. One Quarter. Autumn and Spring. Open to Juniors and Seniors majoring or minoring in the social studies and, with the permission of the instructor, to other properly qualified students. Prerequisite for those who intend to do supervised teaching in the social studies. Mr. Pahlow.

A professionalized subject-matter course, surveying the field of high school history as a whole and organizing it into smaller units for teaching purposes.

Not open to students who have credit for Principles of Education 384 or 385.

NOTE: See note under Principles of Education 700.

665. Teaching of Social Studies other than History. Three credit hours. Spring Quarter. Open to Juniors and Seniors majoring or minoring in any of the social studies, and to persons of maturity and experience in teaching with the permission of the instructor. Prerequisite to student teaching in civics, economics, sociology, or geography. Mr. Landsittel.

The aims and methods of teaching civics, geography, economics and sociology in the high school.

666. Problems of High School English Teaching. Three credit hours. Winter Quarter. A course designed for English teachers of experience or now in service. Mr. Fullington.

The content of the course will depend in a large part upon the problems which members of the class face in their teaching. Consideration will likely be given to such matters as the English course of study; meeting the individual differences, interests, and capacities of high school pupils in literature and composition; the articulation of English with the other school subjects, etc.

Not open to students who have credit for Principles of Education 817.

***670. The Rural School Curriculum.** Five credit hours. Spring Quarter.

The fundamental nature of the curriculum problem. The present approved standards for the elementary curriculum. Desirable differentiation in curricula for urban and rural elementary schools. The course will seek to offer concrete and practical help in reorganizing the curriculum in rural elementary schools in terms of rural school conditions and rural children's experience and needs.

Not open to students who have credit for Principles of Education 308 or 377 or 513.

†680. The Place of the Schools in the Social Organization. Three credit hours. Lectures and discussions. Prerequisite, Senior standing

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

in the College of Education or twenty-five Quarter hours in educational subjects, philosophy, or psychology.

An examination of the aims and purposes of the school in a democratic society. The bearing of contemporary theories and practice upon educational programs in public school systems. The relation of the school and other community and state agencies of an educational character.

Not open to students who have credit for Principles of Education 380 or 381.

682. The Educative Process. Three credit hours. Winter Quarter. Lectures and conferences. Prerequisite, Senior standing in the College of Education and Principles of Education 620, or twenty-five hours in educational subjects, philosophy or psychology, including Principles of Education 620 and Psychology 401. These requirements may be modified by special request, in the case of persons of maturity and experience. Mr. Hullfish.

A comparative study of contemporary writers and movements in the field of education for the purpose of appraising, developing and formulating their contributions to educational theory and practice.

683. The Thinking Process in its Educational Bearings. Three credit hours. Spring Quarter. Lectures and conferences. Prerequisite, Senior standing in the College of Education or twenty-five hours in educational subjects, philosophy or psychology, including a course in principles of education and a course in psychology. These requirements may be modified by special request, in the case of persons of maturity and experience.

A study of the thinking process, for the purpose of tracing its implications for educational theory and classroom practice.

684. The Place of Scientific Method in Education. Three credit hours. Spring Quarter. Prerequisite, Senior standing in the College of Education and Principles of Education 640, or twenty-five hours in educational subjects, philosophy or psychology, including Principles of Education 640 and Psychology 401, and three Quarters of college science. These requirements may be modified by special request, in the case of persons of maturity and experience. Mr. Brim.

An inquiry into the precise nature and field of scientific method, together with a discussion of the important contributions of the method to educational practices and a consideration of the possible limitations of the application of science to education.

TEACHING COURSES

700. The Teaching of History. Three credit hours. One Quarter. Autumn and Spring. Three meetings each week. Prerequisite or concurrent, Principles of Education 410, or 312 and 313, and four Quarters of history; must be preceded or accompanied by a fifth course. Of these, two should be in medieval and modern European history or in English history, and at least two (preferably three) in American history. Mr. Pahlow.

This course deals with the history of history teaching; aims and methods; classroom and library equipment; evaluation of textbooks; the teaching of current events; the history examination; the history teacher.

NOTE: With the consent of the instructor, students who have had either Principles of Education 663 or 700 may register for supervised teaching in history, provided the other course is taken concurrently with supervised teaching.

705. The Teaching of Biology. Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, Botany 401-402, Zoology 401-402, and at least four additional Quarters of some biological subject. Mr. Transeau (Botany), Mr. Barrows (Zoology).

This course is given primarily for the students in the College of Education who expect to teach high school biology. The work will include lectures and demonstrations with discussion of the best methods of presenting botany, zoology, and biology to high school students.

714. Teaching Composition in High School. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures each week. Open to students majoring or minoring in English who have reached the third Quarter of their Junior year. Required of students who intend to do supervised teaching (Principles of Education 440) in English. Prerequisite, six Quarters in English and Public Speaking 459. Mr. Seely, Mr. Fullington.

This course will be devoted to the discussion of the methods of teaching grammar and composition, and to means of developing originality, imagination, and individuality in the oral and written expression of high school pupils.

Not open to students who have credit for Principles of Education 343.

†716. The Teaching and Supervision of Journalism in Secondary Schools. Three credit hours. Four recitations and four hours of laboratory work on the Lantern each week. Not open to Freshmen. Mr. Myers.

This course is intended for persons who have been teaching or who expect to teach journalism in secondary schools, or to act as faculty advisers for school newspapers, magazines, or annuals. It includes a general survey of the editorial, business, and mechanical activities of newspaper and magazine publication, with special emphasis on those which are of greatest value and interest to students.

Open only to students registered in the College of Education and graduate students, except by special permission.

717. The Teaching of Dramatics. Five credit hours. Autumn Quarter. Open to Seniors by special permission. Mr. Miller.

Lectures on the organization of dramatics courses and the production of plays in high schools.

725. The Teaching of German. Three credit hours. Autumn Quarter. Three hours lecture and quiz each week. Prerequisite, six Quarters of college German, and consent of the instructor. Mr. Röseler.

A critical study of the methods of teaching modern foreign languages. Lectures, reports, and practice teaching.

Not open to students who have credit for German 665.

730. Methods of Teaching Latin. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, six Quarters of college Latin. Mr. Hodgman.

Lectures and assigned readings on methods of teaching Latin in the secondary schools. Place and value of Latin in education; bibliography; illustrative exercises in the Latin authors used in high schools.

Not open to students who have credit for Latin 617 or Principles of Education 731.

† Not given during the academic year, 1981-1982.

†731. **The Teaching of Latin.** Three credit hours. Prerequisite, six Quarters of college Latin, or consent of the instructor. Mr. Ogle.

A general course based primarily upon the authors read in the secondary schools. Selections from each will be studied in detail to afford practice in the fundamentals of grammar, in the art of expression, and in the arts of translation and interpretation. Topics directly concerned with the work of the classroom will be discussed, such as the ends of the study, the methods best adapted to attain them, the place and purpose of prose composition, the use of translation, illustrative material.

Not open to students who have credit for Principles of Education 730 or Latin 617. It may be counted as part of a major or minor in Latin.

735. **The Teaching of Mathematics.** Three credit hours. Autumn Quarter. Three recitations each week. Lectures and discussions. Required of students in the College of Education who are majoring in mathematics. Prerequisite, or concurrent, Principles of Education 410, or 312 and 313; and Mathematics 442 or experience in teaching secondary mathematics. Mr. Twiss.

The educational value of the study of mathematics; the content matter of the various courses in the junior and senior high schools; modes and methods; recent and contemporary studies of the teaching of mathematics.

Not open to students who have credit for Mathematics 681.

740. **The Teaching of French.** Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite or concurrent, Principles of Education 410, or 312 and 313; and six Quarters of college French. Students must have reached the third Quarter of their Junior year. Required of all students who intend to do supervised teaching (Principles of Education 440) in French. Mr. Tharp.

Values. Teacher's equipment. Objectives and methods. Textbook selection. Classroom procedures. Readings, discussions and conferences.

Not open to students who are taking Principles of Education 745.

745. **The Teaching of Spanish.** Three credit hours. Spring Quarter. Three recitations each week. Prerequisite or concurrent, Principles of Education 410, or 312 and 313; and six Quarters of college Spanish. Students must have reached the third Quarter of their Junior year. Required of all students who intend to do supervised teaching (Principles of Education 440) in Spanish. Mr. Tharp.

Values. Teacher's equipment. Objectives and methods. Textbook selection. Classroom procedures. Readings, discussions, and conferences.

Not open to students who are taking Principles of Education 740.

750. **The Teaching of Mechanical Drawing.** Three credit hours. Autumn Quarter. One lecture and two three-hour laboratory periods each week. Mr. French.

Not open to students who have credit for Engineering Drawing 431 or 531.

751. **The Teaching of Mechanical Drawing.** Three credit hours. Winter Quarter. One lecture and two three-hour laboratory periods each week. Prerequisite, Principles of Education 750. Mr. French.

Not open to students who have credit for Engineering Drawing 432 or 532.

† Not given during the academic year, 1931-1932.

756. The Teaching of Chemistry and Physics. Three credit hours. Spring Quarter. Three meetings each week. Lectures, recitations, readings, and projects. Prerequisite, or concurrent, Principles of Education 410, or 312 and 313; and acceptable courses in general, analytical, and organic chemistry and two Quarters credit in college physics. Mr. Twiss.

A study of the problems of instruction that confront the teacher of chemistry and physics in modern high schools, such as objectives, educational values and methods of chemistry and physics teaching, selection and organization of subject matter, choice and use of textbooks, apparatus, recitations, lectures, excursions, class and laboratory experiments, problems and projects, reviews, tests, etc.

Students enrolling in this course are advised to bring with them chemistry and physics textbooks and apparatus catalogs of recent publication.

Not open to students who have credit for Principles of Education 710 or 755.

760. Spoken English: Teachers' Course. Three credit hours. Winter Quarter. Open to teachers or prospective teachers only. Mr. Wiley.

Classroom lectures and discussion designed to assist teachers of public speaking and debating in secondary schools. The nature of speech training in the secondary schools. Definite suggestions in the following: how to prepare students for debating and speaking contests; speech composition and delivery; classroom reports. This is not a course in speech practice.

Not open to students who have credit for Public Speaking 680.

770. The Teaching of Nursing. Three credit hours. Spring Quarter. Three recitations each week. Education-Science Nursing, fourth year. Prerequisite, three years of training in an accredited school of nursing or Senior standing in the College of Education with major in nursing, physical education, home economics, or biological science. Miss Napier.

Selection and arrangement of subject matter used in schools of nursing, planning lessons and demonstration, equipment of classroom, and other teaching equipment recommended by the State Medical Board.

Not open to students who have credit for Science Nursing 653.

NOTE: For teaching courses in Physical Education see the Department of Physical Education.

NOTE: For teaching course in Practical Arts Education, see Practical Arts and Vocational Education 623, page 222.

NOTE: For teaching course in Commercial Education see Practical Arts and Vocational Education 663, page 223.

NOTE: For teaching course in Industrial Arts and Vocational Industrial Education see Practical Arts and Vocational Education 480, page 220.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

802-803-804. Special Problems in Educational Theory.

***811-812-*813. Special Problems in Secondary Education.**

* Not given in 1931-1932.

†814-*815-816. Special Educational Problems in the Social Studies in the Secondary Schools.

818. Seminar in Curriculum Construction.

*819. The Junior College Curriculum.

821-822. Special Educational Problems in the Physical Sciences in the Secondary Schools.

825-826-827. Special Problems in Elementary Education.

†835. The Teaching and Supervision of History in the Secondary Schools.

840. Problems in the Practice of Elementary Supervision.

†843-*844. The Teaching and Supervision of English in the Secondary Schools.

846. The Teaching of Modern Foreign Languages in Secondary Schools.

*847. Special Problems in the Teaching and Supervision of Modern Foreign Languages in the Secondary Schools.

848. Special Problems in the Teaching and Supervision of the Foreign Languages in the Secondary Schools.

851. Major Research.

†860. College Teaching.

861. Techniques of Curriculum Construction.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PSYCHOLOGY

Office, 325 Education Building

PROFESSORS ARPS, BURTT, GODDARD, MAXFIELD, PRESSEY, TOOPS, DOCKERAY, RENSHAW, AND ENGLISH, ASSOCIATE PROFESSOR WILLIAMS, ASSISTANT PROFESSORS ROGERS, L. C. PRESSEY, DUREA, VALENTINE, AND EDGERTON, INSTRUCTORS, AND ASSISTANTS

The courses offered in psychology fall into five general groups. The following approximate sequences are suggested for the guidance of students desiring a consistent program giving preparation in one of these fields. It is strongly urged, however, that students contemplating such work consult with the department as early as possible with reference to the arrangement of courses. This is particularly the case with graduate students. Thus in planning for a Doctor's degree a reading knowledge of French and German should be acquired during the undergraduate period.

I. General Psychology: 401-402, 406, 601-602-603, 607, 608, 621, 626, 629, 630, 645, 650.

II. Educational Psychology—preparation for psychological work in the schools: 401 and 407 (both required in the College of Education), 608, 610, 662, 618, 614, 615, 616, 611, 628, 410 or 652, 650.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

III. **Abnormal and Clinical Psychology:** 401-402 or 407, 605, 606, 609, 611, 616, 617, 618, 619, 620, 621, 622, 631, 641, 642, 650, 661, 801, 808.

In this division will be found courses serving the following purposes:

(1) Extending the student's knowledge of another field of psychology.
 (2) Acquainting him with an understanding of the possible derangements or disturbances of mental functions, and the means for correcting these in himself or in others.

(3) Fitting the student for service in one of the rapidly developing fields of mental hygiene as psycho-clinician, teacher, or director of clinics.

(4) A service clinic for the students of the University. Women may consult Mrs. Emily Leatherman Stogdill; men, Mr. M. A. Durea. Room 303, Education Building.

IV. **Industrial Psychology:** 401-402, 409, 635, 636, 608, 639, 637, 638, 650.

V. **Comparative Psychology:** 401-402, 655, 656, 657, 658, 650.

000. Probation. No credit. Winter Quarter. Six laboratory hours each week. Required of all Freshmen on probation. No prerequisite. Mrs. Pressey.

This course will afford practice in economical methods of study. Methods of note-taking, reading, memorizing and organizing will be discussed and practiced. The methods presented are to be applied to different courses the student is carrying.

401. Elementary Psychology. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lecture hours or three lecture hours and two two-hour laboratory periods each week. All instructors.

An introductory course and fundamental to all subsequent courses in the department. This course, together with Psychology 402, undertakes to present a survey of the whole field of human psychology. This includes a study of the experimental findings in infant behavior and the subsequent development of adult modes of response, such as emotion, attention, habit, thinking, and the nature and development of personality.

Students desiring the laboratory should indicate that preference and arrange their schedule so that two consecutive hours are available. (See Time Schedule.) In the laboratory sections the student will be given the opportunity to perform experiments directly related to the material presented in the lecture sections.

402. Elementary Psychology. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lecture hours or three lecture hours and two two-hour laboratory periods each week. All instructors.

A continuation of Psychology 401. Students desiring the laboratory should indicate that preference and arrange their schedule so that two consecutive hours are available. (See Time Schedule.) In the laboratory sections the student will be given the opportunity to perform experiments directly related to the material presented in the lecture sections.

406. Intermediate General Psychology. Three credit hours. One Quarter. Autumn and Spring. Three lecture hours each week. Prerequisite, Psychology 402. Mr. Dockeray, Mr. Valentine.

A continuation of Psychology 402, with special emphasis on the fundamental principles and experiments in the general field of psychology.

407. Educational Psychology. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lecture hours each week. Lectures, recitations, and reports. Prerequisite, Psychology 401. All instructors.

The course begins with a brief study of the innate capacities and interests of children and individual differences in these capacities. The major part of the course is devoted to a study of the general laws and conditions of learning and the results of investigations regarding the progress of learning in various school subjects. Throughout the course experimental data and test results are stressed and practical problems emphasized.

408. Mental Hygiene. Two credit hours. Winter Quarter. Two class meetings each week. Prerequisite, Psychology 407 or 402. Mrs. Pressey.

A general survey of the principles of mental hygiene. A study of mental efficiency, social and emotional adjustment, and personality in light of the principles of mental hygiene.

409. Introduction to Applied Psychology. Three credit hours. Spring Quarter. Three lecture hours each week. Prerequisite, Psychology 402. Mr. Burt.

A systematic discussion of problems, methods, and typical results of psychology in the practical fields of medicine, law, education and business.

410. Psychology of the Elementary School Subjects. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 407. Mrs. Pressey.

An analysis of the specific psychological processes involved in arithmetic, reading, writing, and other elementary school subjects, with consideration of the conditions which promote learning in each subject, and examination of textbooks and methods from this point of view.

Not open to students who have credit for Psychology 651.

***411. Psychology of Effective Study.** Three credit hours. One Quarter. Autumn and Spring. Lectures, discussions, and supervised study. Open to students on probation or to other students by permission of the Secretary of the College or the instructor. Mrs. Stoddard.

An applied course on psychological laws of economical learning. The laws will be not only taught, but demonstrated and applied under the supervision of the instructor. Students who feel themselves handicapped by poor habits of study are urged to enroll in this course.

For further details see the Secretary of the College.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Experimental Psychology. Three credit hours. Autumn Quarter. One lecture and two laboratory periods each week. Prerequisite, Psychology 402. Mr. Renshaw.

This is the fundamental course for General Psychology and is recommended to students expecting to carry on psychological research. The experiments are designed to demonstrate the fundamental laws of human behaviour and to develop the technique of handling standard psychological apparatus.

Courses 601, 602, 603, comprise a unit year's work in the laboratory. In special cases students may enter 602 without having credit for 601.

602. Experimental Psychology. Three credit hours. Winter Quarter. One lecture and two laboratory periods each week. Mr. Renshaw.

603. Experimental Psychology. Three credit hours. Spring Quarter. One lecture and two laboratory periods each week. Mr. Renshaw.

605. Physiological Psychology. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 401-402. Mr. Goddard.

The aim of this course is to give a consistent picture of the physical basis of mind. It uses the important facts of the anatomy and physiology of the central and

* Not given in 1931-1932.

autonomic nervous systems and the more generally accepted theories of nerve functions and their correlations with mental processes.

606. Advanced Physiological Psychology. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, Psychology 605 or permission of the instructor. Mr. Goddard.

This course will deal with the larger problems of the dependence of mental phenomena upon physiological processes such as: the emotions and the sympathetic system; temperament and the endocrines; consciousness and the circulation; nerve activity without consciousness; effect of unusual physiological conditions (e.g., produced by fatigue, alcohol, syphilis, or other toxins) upon various mental processes.

607. Genetic Psychology. Five credit hours. Spring Quarter. Five lecture hours each week. Lectures, recitations, and reports. Prerequisite, Psychology 401-402 or 407. Mr. Williams.

This course is designed to present the facts of mental development and their significance. Topics considered are: individual development, particularly with reference to the development of the nervous system; inheritance of mental traits; innate tendencies, their characteristics, description, and modification; play; mental states, their physiological basis and development with growth and training; moral and religious development; physical development; methods of child study; exceptional children (observation of atypical children in city and state institutions).

608. Educational Statistics: Elementary. Four credit hours. Autumn Quarter. Two lectures and two two-hour laboratory periods each week. Mr. Toops.

A basic statistical course for students intending to conduct major or minor research. Frequency distributions, methods of measuring central tendencies and variability; construction of graphs and charts; interpretation of results in terms of probability; simple treatment of correlation. Extended practice in the use of calculating machines and computational devices.

Not open to students who have credit for School Administration 613 or 643.

609. The Exceptional Child. Three credit hours. One Quarter. Winter and Spring. Three lecture hours each week. Lectures, reports, clinics, and visits to public institutions. Prerequisite, fifteen hours of psychology or ten hours of psychology and five hours of professional educational subjects or sociology.

Individual differences among children with respect to mental, physical, and social traits. The social and pedagogical significance of talent and defect. Consideration of gifted children, special abilities and disabilities, blindness, deafness, speech defect, mental retardation, and behavior problems. Emphasis will be placed on the psychology of the exceptional child as a foundation for educational classification and treatment.

610. Adolescence. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 407 or 402. Mr. English.

A study of the outstanding characteristics of the adolescent boy and girl, the educational and social problems arising at this period, and means for dealing with these problems.

611. The Mentally Deficient Child. Three credit hours. Autumn Quarter. Three lecture hours each week. Lectures, reports, clinics, and visits to public institutions. Prerequisite, fifteen hours of psychology or ten hours of psychology and five hours of professional educational subjects or sociology. Mr. Maxfield.

The varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. Consideration of mental deficiency and de-

fect for purposes of educational treatment and social disposition. The psychology of feeble-mindedness; types, degrees, causes, and consequences. Minor consideration of the special pedagogy of backward children.

612. Educational Statistics: Intermediate. Three credit hours. Winter Quarter. Two lectures and one two-hour laboratory period each week. Prerequisite, Psychology 608 or School Administration 643 or equivalent. Mr. Toops.

Fuller treatment of correlation; regression coefficients and equations; partial and multiple correlation; uses of normal probability curve; reliability and validity of test data; comparable measures.

Not open to students who have credit for School Administration 644.

613. Mental and Educational Tests. Three credit hours. Autumn Quarter. Two lecture hours and one conference hour each week. Lectures, readings, classroom demonstrations, and special reports. Prerequisite, Psychology 402 or 407. Mr. Pressey.

A brief course covering the use of tests of both ability and school work. The course will begin with a discussion of tests in arithmetic, reading and history, and other school subjects, will then take up tests of intelligence and will conclude with a general discussion of the handling of test scores and of the use to be made of these scores in dealing with practical problems.

†614. Problems of Test Work. Three credit hours. One Quarter. Three lectures each week. Lectures, readings in educational periodicals, discussion. Prerequisite, Psychology 613 or its equivalent. Mr. Pressey.

Reliability and validity of tests. Interpretation of scores. Statement of results. graphing. Criteria for selecting tests; organization of test work; records; application of test results in dealing with educational problems. Tests of the emotions and of other special types. The work will be illustrated throughout by use of standard mental and educational tests. Students having data of their own are urged to make use of this material.

***615. Laboratory in Tests and Educational Diagnosis.** Three credit hours. Spring Quarter. Six laboratory hours each week. Prerequisite, Psychology 613 or permission of the instructor. Mrs. Pressey.

Practice in the giving and scoring of tests and in the use of tests in dealing with educational problems. Special attention will be given to use of test materials in the diagnosis of special disabilities and difficulties in school work.

616. Individual Testing by the Binet-Simon Method. Two credit hours. One Quarter. Autumn and Winter. Two laboratory periods each week. Reports, laboratory demonstrations, and individual testing. Prerequisite, fifteen hours of psychology or ten hours of psychology and five hours of professional educational subjects or sociology. Mr. Maxfield, Mr. Durea, and assistants.

Practice in the technique of the Stanford revision of the Binet-Simon scale for measuring intelligence. Brief historical and descriptive treatment of the Binet scale followed by intensive training in its practical use.

617. Advanced Binet Testing. Two credit hours. Winter Quarter. Two laboratory periods each week. Reports, laboratory demonstrations, and individual testing. Prerequisite or concurrent, Psychology 616. Mr. Maxfield, Mr. Durea, and assistants.

Advanced study and application of the Binet-Simon method. Review of revisions of the Binet-Simon scale. Intensive training in the practical use of the revisions of Kuhlmann, Herring and Hayes.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

618. Clinical Tests. Two credit hours. One Quarter. Autumn and Spring. Two laboratory periods each week. Laboratory demonstrations and individual testing. Prerequisite, fifteen hours of psychology. Mr. Maxfield, Mr. Durea, and assistants.

Descriptive and practical laboratory study of standard diagnostic tests and techniques, particularly those known as performance tests.

619. Psychological Clinic. Two or four credit hours. One Quarter. Autumn, Winter, Spring. One four-hour laboratory period each week. Clinic practicum. Individual case studies, reports, case conferences, home visits and clinical procedure. May be taken for one or two Quarters with a maximum credit of four hours. Prerequisite, Psychology 616 and 618; prerequisite or concurrent, Psychology 617, or permission of the instructor. Mr. Goddard, Mr. Maxfield.

Theory and practice of clinical case study, including family history, personal history, school history, and social history. Interpretation of reports of medical examiners, teachers, social agencies, etc., as well as interpretation of test results. Participation in the regular work of the Psychological Clinic conducted by the Department of Psychology. Training in the preparation of clinical reports.

NOTE: A student may profitably receive the special training which this course gives for a second Quarter. Repetition does not involve repetition of content but additional practice in clinical procedure.

620. Advanced Psychological Clinic. Two credit hours. One Quarter. Autumn, Winter, Spring. Assignments equivalent to two laboratory periods each week. Prerequisite, Psychology 619 or permission of the instructor (students are advised to consult instructor before registering). May be taken for one or two Quarters with a maximum credit of four hours. Mr. Goddard, Mr. Maxfield.

Students will engage in actual clinical service, under the supervision of the instructor. Cases will be studied in the laboratory and in the nearby public schools and institutions. Special training in the diagnosis of borderline, psychopathic, and doubtful cases. Case studies involving psycho-educational or behavior problems. Follow-up work on cases previously studied in the clinic. Problems of educational and vocational guidance. Advanced training in the preparation of clinical reports.

NOTE: A student may profitably receive the special training which this course gives for a second Quarter. Repetition does not involve repetition of content but additional practice in clinical procedure.

621. Social Psychology. Three credit hours. Winter Quarter. Three lecture hours each week. Prerequisite, Psychology 401-402 or 407. Mr. Arps.

The nature and variety of innate tendencies; the relation of these tendencies to acquired behavior and social control; the development of personality.

622. The Psychology of the Delinquent Child. Three credit hours. Spring Quarter. Three lecture hours each week. Lectures, reports, and visits to the Bureau of Juvenile Research. Prerequisite, fifteen hours of psychology or ten hours of psychology and five hours of professional educational subjects or sociology. Mr. Goddard.

The meaning and significance of delinquency; its psychological basis; causes and prevention. The home and school as factors determining delinquent behavior. The significance of psychological findings for juvenile court procedure. The present day methods of dealing with the problem.

624. Psychology of Vision and Hearing. Five credit hours. Winter Quarter. Five lectures each week. Prerequisite, Psychology 602 and Physics 402 or its equivalent. Qualified Juniors and Seniors in Electrical Engineering and Architecture may be admitted by permission of the instructor. Mr. Williams.

Production, measurement, and control of photic stimuli and measurements of the variations in their effectiveness as determined by physical and physiological factors. The work will consist in part of lecture-demonstrations and experiments, and in part of a critical study of the reports of original authors. Special attention will be given to the facts and hypotheses of color-vision and to visual problems in industry.

626. Problems in Learning and Thinking. Three credit hours. Winter Quarter. Three lecture and discussion hours each week. Prerequisite, Psychology 402 or its equivalent. Mr. Renshaw.

The development of the principles which underlie the acquired modifications of human behavior, from associationism to the present time.

628. The Learning Process. Three credit hours. Winter Quarter. Three lectures each week. Lectures, readings in monographs and journals, discussions. Prerequisite, Psychology 407. Mr. English.

An advanced course in educational psychology, dealing with certain especially important problems in the field, such as the control of the learning process, memory and forgetting, transfer of training, fatigue, with emphasis upon the more elaborate types of learning such as are seen in school work. Especial attention will be paid to recent experimentation and theories concerning the learning process.

629. Advanced Psychology. Five credit hours. Autumn Quarter. Five lectures each week. Prerequisite, Psychology 401-402. Miss Rogers.

The purpose of this course is to give a larger background to the advanced student of psychology, with respect to other disciplines, especially the sciences, leading to a systematic development of structuralistic psychology.

630. Psychology of Feeling and Emotion. Five credit hours. Winter Quarter. Five lectures each week. Prerequisite, Psychology 401-402. Miss Rogers.

A study of the various theories of feeling and emotion and the fundamental relations of emotion to instinct. Emotions in relation to various physiological activities. Methods of investigating emotion.

631. Theory of Intelligence. Three credit hours. Spring Quarter. Three lecture hours each week. Prerequisite, fifteen hours of psychology or ten hours of psychology and five hours of professional educational subjects. Open only to Seniors and graduate students. Mr. English.

Nature of intelligence, current and historical concepts. Psychology of intelligence; physical and physiological correlates. Distribution and growth of intelligence. Critical study of the intelligence quotient, mental age, mental level, mental type, mental function.

634. Criminal and Legal Psychology. Five credit hours. Winter Quarter. Five lectures each week. Prerequisite, Psychology 401-402. Mr. Burt.

Psychological factors in the determination of reliability of testimony; the technique of detecting crime and falsehood; responsibility; the relation of crime to mental disease or defect; the prevention of crime through environmental factors and heredity.

635. Psychology of Advertising. Three credit hours. One Quarter. Autumn and Spring. Three lectures each week. Prerequisite, Psychology 401-402. Mr. Burt.

The psychological principles involved in effective advertising, notably attention, memory and action, with the contributory factors of association, feeling, instinct, suggestion, and reasoning.

636. Advertising Psychology Laboratory. Three credit hours. Winter Quarter. Six laboratory hours each week. Prerequisite, Psychology 635. Mr. Burt.

General and special problems illustrating the application of laboratory methods and the treatment and use of experimental data in the field of advertising psychology.

637. Industrial Psychology. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 401-402. Mr. Burt.

The application of psychology to problems of industrial learning, adjustment of technical to mental factors, monotony, fatigue, environmental conditions, industrial unrest and morale.

***638. Industrial and Vocational Psychology Laboratory.** Three credit hours. Spring Quarter. Two three-hour laboratory periods each week. Prerequisite, permission of the instructor. Mr. Burt.

Laboratory work in the application of psychology to industrial and vocational problems, with especial emphasis on the development of psychological techniques for hiring employees. Practice in the devising and standardizing of occupational tests; obtaining and evaluating production ratings; correlation of ratings and tests; interpretation of results from the standpoint of vocational selection or guidance. A portion of the work of the course is frequently done in local business and industrial plants.

639. Psychology and Personnel. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, Psychology 401-402. Mr. Burt.

The application of psychology to problems of personnel. Selection and placement of employees by tests of intelligence and special ability. Trade tests, job analysis, and rating scales.

640. Educational and Vocational Guidance. Three credit hours. Winter Quarter. Prerequisite, Psychology 407. Mr. Edgerton.

A course dealing with the technique of evaluating psychological and related factors as a basis for making educational and vocational recommendations to individuals. The place of vocational and educational tests, previous record, and personality traits in determination of choice of occupation or course of study.

Not open to students who have credit for Psychology 417.

641. Abnormal Psychology. Five credit hours. Winter Quarter. Five lectures each week. Lectures, recitations, and clinics. Prerequisite, Psychology 401-402. Mr. Goddard.

The abnormal mental phenomena—viz., disorders of perception, association, memory, affection, judgment, action, volition, and personality, with especial emphasis on their relation to the respective normal phenomena. The grouping of these disorders into the syndromes exhibited in the main types of insanity.

642. Psychopathology. Three credit hours. Spring Quarter. Three lectures each week. Lectures, recitations, and reports. Prerequisite, Psychology 401-402. Mr. Goddard.

This course will deal with the unusual (so-called pathological) manifestations of mind. Beginning with a consideration of subconscious phenomena—sleep, dreams, hyp-

* Not given in 1931-1932.

nosis, automatic writing, etc., there will be discussed: phobias, suggestion, the psychological aspects of hysteria, and multiple personality, psychasthenia, neurasthenia, and other disorders of personality.

644. Human Motives and Incentives. Three credit hours. Spring Quarter. Three hours each week. Lectures, recitations, and assigned readings. Prerequisite, Psychology 401-402 or 407. Mr. Toops.

The psychological bases of initiation and improvement of work. The role of instinct, habit, custom and tradition, rationalization and psychopathy in motivation. The incentive values of self-ratings, competition, punishment, and such rewards as money, bonuses, participation and promotion, in relation to the capacities of individuals.

645. History of Psychology. Five credit hours. Autumn Quarter. Five lectures each week. Prerequisite, sixteen hours in psychology. Mr. Williams.

The course aims to view modern psychological problems in the light of their historical antecedents. The development of various theories such as those of sensation, attention, space perception, and emotion will be traced from earliest times to the present. As far as possible assignments will involve reference to original sources.

***646. Principles of Human Behavior.** Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, sixteen hours in psychology. Mr. Weiss.

A study of the development of theories of human behavior and a consideration of the simplest assumptions necessary and sufficient to explain the facts of human behavior as dependent on social and biological conditions.

647. Theoretical Psychology. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, sixteen hours in psychology. Mr. Dockeray.

Lectures and assigned readings bearing on the evolution of psychological theory in its relation to the physical and the social sciences.

650. Minor Problems. One or more credit hours. All Quarters. Prerequisite, sixteen hours in psychology and the permission of the instructor. All instructors.

Investigation of minor problems in the various fields of psychology.

By permission of the chairman of the department and the Director of the Bureau of Educational Research, students enrolled in this course may obtain credit for research work done under the auspices of the Bureau staff.

652. Psychology of High School Subjects. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, Psychology 407. Mr. Pressey.

An analysis of the specific psychological processes involved in algebra, language, science, and other high school subjects, with consideration of the conditions which promote learning in each subject, and examination of textbooks and methods from this point of view.

Not open to students who have credit for Psychology 410.

***653. Special Response Categories.** Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 646. Mr. Weiss.

An analysis of the more complex forms of human behavior. A continuation of Psychology 646.

* Not given in 1981-1982.

654. Advanced Statistics. Three credit hours. Spring Quarter. Two lectures and one two-hour laboratory period each week. Prerequisite, Psychology 612 or equivalent. Mr. Toops.

Special cases in correlation; non-linear regression; straight lines of best fit; construction of criteria; elementary probability; random sampling; derivation of commonly used equations; critical readings; construction of tables and graphs to meet the research needs of individual students.

655. Comparative Psychology. Five credit hours. Autumn Quarter. Five lectures each week. Prerequisite, Psychology 401-402. Mr. Williams.

The principles of animal behavior in relation to human behavior. A study of the similarities and differences in the behavior of animals and of humans and the explanation of these similarities and differences, with special reference to those principles definitely involved in the organism's instinctive and acquired mode of adjusting to its environment.

Not open to students who have credit for Psychology 627.

656. Comparative Psychology. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, Psychology 655. Mr. Williams.

A continuation of Psychology 655, devoted largely to contemporary literature in comparative psychology.

Not open to students who have credit for Psychology 627.

657. Comparative Psychology Laboratory. Three credit hours. Autumn Quarter. One lecture each week and laboratory periods to be arranged. Prerequisite, Psychology 401-402. Mr. Williams.

The methods and results of investigation of animal behavior in relation to human behavior.

658. Comparative Psychology Laboratory. Three credit hours. Winter Quarter. One lecture each week and laboratory periods to be arranged. Prerequisite, Psychology 657. Mr. Williams.

A continuation of Psychology 657.

***659. University Personnel Psychology.** Three credit hours. Autumn Quarter. Two lectures and one two-hour laboratory period each week. Prerequisite, ten hours of psychology. Mr. Toops.

A course designed for students who are preparing for positions in vocational guidance or personnel work in universities and those interested in the achievement of adults. The giving, scoring, and interpretation of tests of university entrants. Reading tests and tests of special capacities of adults. Planning a testing program for adults. Theories of adult testing. Comparative study of University personnel programs and procedures. The content of the course will vary somewhat from year to year.

660. Comparative Psychology Laboratory. Three credit hours. Spring Quarter. One lecture each week and laboratory periods to be arranged. Prerequisite, Psychology 658. Mr. Williams.

Continuation of Psychology 658.

661. Psycho-Educational Problems. Two credit hours. One Quarter. Autumn, Winter, Spring. One four-hour period each week. Clinical studies of pupils presenting psycho-educational problems, under direction

* Not given in 1931-1932.

of instructor. Prerequisite, Psychology 619 and permission of instructor. Open only to Senior and graduate students. Mr. Goddard, Mr. Maxfield.

A student will be assigned to a public school where, under direction of the principal he will make studies of individual pupils. Practical experience in problems of child guidance and educational adjustment as required by students who expect to become student counselors, visiting teachers, or psycho-clinicians. Preparation of reports to the principal under direction of instructor.

Not open to students who have credit for the work of this course taken as Psychology 650 (Minor Problems) or 620 (Advanced Psychological Clinic).

662. The Elementary and Pre-School Child. Three credit hours. Winter Quarter. Two lectures and one hour conference each week. Prerequisite, Psychology 407 or 402. Mr. Durea.

This course will present the elements of child nature, individual differences and fundamental appetites. The process of socialization will be considered in terms of the variety of situational settings impinging on the child. Much of the content of the course will be concerned with the significance of early behavior patterns.

†664. Psychological Problems of Deans of Women. Three credit hours. Prerequisite, Psychology 401-402 or 407.

This course has been organized for deans of women in colleges and universities and deans of girls, vice-principals and other advisers of women and girls.

The following topics will be considered: Methods of consultation which will bring about the education of desirable personality traits in students, methods of advising on economic problems such as the getting and spending of money, use of time and energy and vocational adjustments.

It is advisable to follow this course by Psychology 665.

665. Psychological Problems of Deans of Women. Three credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Psychology 401-402 or 407. Mrs. Gaw, Miss Zorbaugh.

This course has been organized for deans of women in colleges and universities, deans of girls, vice-principals of high schools and other advisers of women and girls.

The following topics will be considered: methods of consultation which will bring about the education of desirable personality traits in students; scholastic and social orientation of students; the use and interpretation of records of entrance examinations and scholarship as bearing on the personality of the student.

It is advisable to take Psychology 664 before taking 665.

674. Research Problems of the Dean of Women. One or more credit hours. Autumn, Winter, and Spring Quarters. Prerequisite, Psychology 665, or its equivalent, and the approval of the instructor. Mrs. Gaw.

Investigation of the minor psychological problems which arise in connection with the social, scholastic, and vocational adjustments of undergraduate women.

675. Personnel Forms and Interrogation Methods. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, Psychology 402 or 407 or consent of the instructor. Mr. Edgerton.

Techniques of the questionnaire; survey schedules; personnel forms; techniques of constructing valid questions and test items for prognosis, diagnosis and measurement of attainment; item analysis. The student will construct examinations and personnel forms under supervision and class criticism.

† Not given during the academic year, 1931-1932.

676. Methods and Viewpoints in Educational Psychology. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, Psychology 402 or 407 or permission of the instructor. Mr. English.

A critical appraisal of the implications for education of modern psychological movements from Preyer and G. S. Hall to the present day.

677. Graphic Methods. Two credit hours. Winter Quarter. Two lectures each week. Prerequisite, Psychology 402 or 407 or consent of the instructor. Mr. Toops.

Graphic presentation of the results of experiments and investigations; histograms, bar charts, specialized charts; tri-dimensional presentation.

678. Psychology of Personality. Three credit hours. Spring Quarter. Three lectures each week. Prerequisite, Psychology 401 and 402. Mr. Durea.

This course will consider the individual both as a social and biological unit, relating each group of factors to the development of personality. Ample attention will be given to questions such as integration, measurement of traits, personality types, related physical and chemical factors, etc. The course is correlative to Psychology 641.

***701. Proseminary in Educational Psychology.** Two credit hours. Autumn Quarter. One two-hour discussion each week. Prerequisite, Psychology 407 and permission of the instructor. Only school people in active service will be admitted. Mrs. Pressey.

This course is offered exclusively for teachers in service. It will consist of lectures and readings upon one or more topics of importance in educational psychology. These topics will vary from year to year according to the needs of the group. Each teacher will be expected to work out some minor problem having to do with the main topic of the course.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

- 801. Major Research.
- 802. Seminary in Experimental Psychology.
- 803. Seminary in Educational Psychology.
- 805. Contemporary Psychological Literature.
- 806. Seminary in Abnormal Psychology.
- 807. Seminary in Industrial Psychology.
- 808. Psycho-Analysis.
- †810. Psychological Problems in Higher Education.
- *811. Advanced Theoretical Psychology.
- 812. Psychological Seminary.
- 815. Seminary in Psychological Statistics.
- 820. Study of the Special Reading Difficulties of Children I.
- 821. Study of the Special Reading Difficulties of Children II.

For description of graduate courses in this department see the Bulletin of the Graduate School.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

PUBLIC HEALTH AND HYGIENE

Office, Hamilton Hall

PROFESSOR HAYHURST, ASSISTANT PROFESSOR SELBERT

404. Principles of Public Health Nursing. Three credit hours. One Quarter. Autumn and Spring. Three recitations, also excursions, each week. Education-Science Nursing, second year. Mrs. Selbert.

The organization of public health nursing and the place of nursing in its relation to the various forms of medical, social, and public service. The best methods of administration as to the supervision and arrangement of practical work, classification and preservation of records and the presentation and publication of reports. This course is intended also to give a general grasp of measures to be followed outside of hospital nursing in various types of sickness, to relieve immediate needs and to teach hygiene and methods to prevent the spread of disease. Special branches of public health nursing are considered and the practical handling of individual problems is discussed.

407. Elementary Nursing. Two credit hours. One Quarter. Autumn, Winter, Spring. Two lectures with demonstration each week. Home Economics, second year. Mrs. Selbert.

Instruction in the fundamental principles on which nursing depends. The demonstration and practice of those nursing duties which may be performed in home nursing.

452-453. Public Health Nursing Field Work. Two credit hours. Two Quarters. Both 452 and 453 are given Autumn, Winter, and Spring. Six hours of field work each week. Elective in five-year curricula in Nursing after the third year. Prerequisite, consent of the instructor. Mrs. Selbert and field workers.

A study is made of the medical and nursing service in various agencies. The time and assignments for each student are arranged individually by the instructor.

454. Public Health Nursing Field Work, including Social Case Work. Thirteen credit hours. One Quarter. Autumn, Winter, Spring. Thirty-nine hours of field work each week. Elective in five-year curricula in Nursing after the third year. Prerequisite, Public Health 452-453. Mrs. Selbert and field workers.

Observation and experience with various nursing and social service organizations. Hospital and dispensary social service. The time and assignments for each student are arranged individually by the instructor.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

602. Public Health Problems. Five credit hours. One Quarter. Autumn, Winter, Spring. Four class periods and one field trip each week. Students provide their own means of conveyance on trips. Prerequisite, Chemistry 401 or 411, Physics 401 or 403, and five credit hours in college biological science; or a background in economics, or sociology, or education, or industrial engineering. A previous or concurrent course in bacteriology is recommended. Mr. Hayhurst, Mrs. Selbert.

A resume of theories and discoveries pertaining to the causes and prevention of disease. An elementary consideration of the public health aspects of such problems as food supplies, water, sewage, refuse, ventilation, communicable diseases, maternity and infant welfare, housing and school hygiene, camp and rural sanitation, tuberculosis, cancer, goiter, quackery, mental and industrial hygiene, vital statistics, and health administration.

603. Industrial Hygiene. Three or five credit hours. One Quarter. Autumn, Winter, Spring. Three class periods each week; also one conference and two field hours when five credit hours are elected. Students provide their own means of conveyance on trips. Prerequisite, five college credit hours in chemistry, physics and biology, or a background in economics or sociology or industrial engineering. A previous or concurrent course in sociology or economics is recommended. Mr. Hayhurst.

This course considers the hygiene and safety of work as related to working efficiency, maximum production and the avoidance of lost time due to disability. The history and economics of industrial health, the dangerous trades, health hazards, accidents, occupational diseases, compensation matters, and the methods of control, prevention, and industrial medical services are included.

608. Child Health. Two credit hours. One Quarter. Autumn, Winter, Spring. One lecture, and one demonstration or excursion each week. Prerequisite or concurrent, Public Health and Hygiene 407. Elective, Education-Science Nursing, fifth year. Mrs. Selbert.

The principles of child welfare are considered including ante-natal, neo-natal, and post-natal periods of infancy; the pre-school and school age through early adolescent life. Disease conditions are not considered.

Not open to students who have credit for Public Health and Hygiene 403.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

Office, 111 Derby Hall

PROFESSORS HENDRIX, MOORE, HAVENS, ROCKWOOD, AND MONROE, ASSOCIATE PROFESSOR ANIBAL, ASSISTANT PROFESSORS HAMILTON, GUTIERREZ, FOURE, SCHUTZ, AND DEMOREST, MRS. ARTHUR, MRS. FOURE, MISS WALSH, MR. H. J. RUSSELL, MRS. CUMMINGS, MR. BROOKS, MR. PRICE, MISS DAVIS, MR. PALOMO, MR. BIEGLER, MR. FITCH, AND ASSISTANTS

French 401-402, 403-404 must precede all other courses in French except 405.

The undergraduate courses offered in French and Spanish beginning with third-year collegiate work fall into two general groups. Students may emphasize one or both of these lines of study.

I. Literary—French 413-414, 415-416, 601-602, 603, 605-606, 607-608, 609-610, 611-612; Spanish 413-414, 607-608, 609-610, 611-612, 613-614, 615-616, 626, 632.

II. Linguistic—French 410, 413-414, 623-624, 625-626, 627 or 632, 628, 629; Spanish 405, 413-414, 605, 606, 617.

For students who enter with two years of high school French the following outline course is recommended:

First Year: French 403-404.

Second Year: (1) French 413-414, 415-416.

(2) French 410.

Third and Fourth Years: (1) French 601-602, 603, 605-606, 607-608, 609-610, 611-612.

(2) French 623-624, 625-626, 627 or 632, 628, and 629.

For students who enter with two years of high school Spanish the following outline course is recommended:

First Year: Spanish 403-404.

Second Year: Spanish 413-414.

Third and Fourth Years: (1) Spanish 607-608, 609-610, 611-612, 613-614, 615-616, 626, 630.

(2) Spanish 405, 605-606, 617, and 620.

THE FRENCH CLUB

The French Club is a student organization conducted by the department and is under the supervision of Mr. and Mrs. Fouré. Formal meetings are held fortnightly. It has been the practice of the French Club to stage one or more French plays annually for the last twenty-five years.

THE SPANISH CLUBS

The Spanish Club is a student organization conducted by the department and is under the supervision of Mr. Gutiérrez. The Club presents one or two plays each year.

A Junior Spanish Club (La Tertulia) for more elementary students (those in Spanish 403-404) is under the direction of the department. As these students progress they become eligible to membership in The Spanish Club.

THE ITALIAN CLUB

The Italian Club is a student organization conducted by the Department under the supervision of Mr. Moore. It is the aim of the Club to present a play each year. Formal meetings are held fortnightly.

FRENCH

401. Elementary French. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for use of all students in this course. As much as three hours each week of laboratory practice may be required as part of the preparation of lessons.

No student is allowed to take this course simultaneously with Spanish 401-402 or Italian 401-402.

402. Elementary French (Continued). Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 401. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for use of all students in this course. As much as three hours each week of laboratory practice may be required as part of the preparation of lessons.

No student is allowed to take this course simultaneously with Spanish 401-402 or Italian 401-402.

403. Intermediate French. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 402 or equivalent. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for use of all students in this course.

404. Intermediate French (Continued). Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 403 or equivalent. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for use of all students in this course.

410. Elementary French Conversation and Composition. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 404 with grade of "C" or better, and permission of the instructor. This course is conducted in French. Sections are limited to twenty students. Mr. Fouré, Mrs. Fouré.

413. Advanced French. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 404 with grade not lower than "C."

Rapid reading of modern literature with special emphasis on the nineteenth century.

414. Advanced French. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, French 413.

Rapid reading of modern literature with special emphasis on the nineteenth century.

415. Advanced French. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, French 404 with grade not lower than "C."

Rapid reading with emphasis on a survey of the principal movements, documents, and individuals in the literature of France from the beginning of the Middle Ages to the end of the seventeenth century.

416. Advanced French. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, French 415.

Rapid reading with emphasis on the literature of France from the beginning of the eighteenth century down to the present.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

Students intending to major or minor in French are urged to elect the following courses: French 627 or 632, 628, Latin 627, 506, Philosophy 601-602, 603, Greek 701, Phonetics 601, History 624-625, and English 805.

600. French Literature of the Seventeenth Century, 1680-1715. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Lectures, collateral readings, and reports. Prerequisite, French 413-414 or 415-416. Mr. Rockwood.

The close of the seventeenth century. The Quarrel of the Ancients and the Moderns. Selected works of La Fontaine, La Bruyere, Fenelon, Bossuet, and Fontenelle will be read.

601. French Literature of the Seventeenth Century, 1600-1660. Five credit hours. Spring Quarter. Four meetings each week, a fifth at the option of the instructor. Lectures, collateral reading, and reports. Prerequisite, French 413-414 or 415-416. Mr. Rockwood.

The pre-Classic period: formation of the school of 1660, The Libertines, growth of French comedy and tragedy, The Précieuses, the French Academy will be discussed. Selected works of Malherbe, De Vieu, Descartes, Balzac, and Corneille will be read.

602. French Literature of the Seventeenth Century, 1660-1680. Five credit hours. Autumn Quarter. Four meetings each week, a fifth at the option of the instructor. Lectures, collateral reading, and reports. Prerequisite, French 413-414 or 415-416. Mr. Rockwood.

The school of 1660. Selected works of Pascal, Moliere, Boileau, Racine, La Rochefoucauld, Mme. de Sévigné, and Mme. de Lafayette will be read.

†603. French Literature of the First Half of the Nineteenth Century. Five credit hours. Five recitations each week. Lectures, collateral reading and reports. Prerequisite, French 413-414 or equivalent.

French literature from 1800 to 1850. The development of romanticism in the novel, poetry, and the theatre.

† Not given during the academic year, 1931-1932.

***605. French Literature of the Fifteenth and Sixteenth Centuries.** Three credit hours. Winter Quarter. Three lectures each week. Given biennially. Prerequisite, French 413-414. Mr. Moore.

Villon, Rabelais and contemporaries.

***606. French Literature of the Sixteenth Century.** Four credit hours. Spring Quarter. Three meetings each week, a fourth at the option of the instructor. Given biennially. Prerequisite, two Quarters of Advanced French. Mr. Moore.

Montaigne and Pléiade.

607. French Literature of the Eighteenth Century, 1700-1750. Three credit hours. Autumn Quarter. Three lectures each week. Prerequisite, French 413-414 or 415-416. Mr. Havens.

Rapid reading, with lectures and reports. Fontenelle, Bayle, Cr  billon, Voltaire, Montesquieu, Marivaux and others.

608. French Literature of the Eighteenth Century, 1750-1789. Three credit hours. Winter Quarter. Three lectures each week. Prerequisite, French 413-414 or 415-416. Mr. Havens.

Rapid reading, with lectures and reports. Voltaire, Rousseau, Diderot, Beaumarchais, and others.

609. The French Novel to 1850. Three credit hours. Winter Quarter. Three lectures each week. Given biennially, alternating with French 611-612. Prerequisite, French 413-414 or 415-416. Mr. Havens.

Rapid survey of the French novel during the sixteenth, seventeenth, and eighteenth centuries and the first half of the nineteenth century. Mme. de Sta  l, Chateaubriand, George Sand, Hugo, and Balzac. Lectures, reports, and collateral reading.

610. The French Novel, 1850 to the Present Day. Three credit hours. Spring Quarter. Three lectures each week. Given biennially, alternating with French 611-612. Prerequisite, French 413-414 or 415-416. Mr. Havens.

Flaubert, Maupassant, Zola, Daudet, France, Bazin, Loti, and others. Lectures, reports, and collateral reading.

***611. The Comedy of Manners in the Nineteenth Century, 1800-1880.** Three credit hours. Autumn Quarter. Three lectures each week. Given biennially, alternating with French 609-610. Prerequisite, French 413-414 or 415-416. Mr. Rockwood.

La Pi  ce Bien Faite, La Pi  ce    Th  se, Picard, Scribe, Dumas fils, Augier, Sardou. Rapid reading with lectures and reports.

***612. The Comedy of Manners in the Nineteenth Century, 1880-1914.** Three credit hours. Winter Quarter. Three lectures each week. Given biennially, alternating with French 609-610. Prerequisite, French 413-414 or 415-416. Mr. Rockwood.

Le Th   tre Libre, Becque, Curel, Hervieu, Lavedan, Donnay, Bernstein, Bataille, G  ltry. Rapid reading with lectures and reports.

615. French Lyric Poetry. Three credit hours. Spring Quarter. Prerequisite, French 413-414 or 415-416. Mr. Hamilton.

A detailed study of French poetry, particularly of the nineteenth century.

* Not given in 1931-1932.

623. Cours de Style. Three credit hours. One Quarter. Autumn and Winter. Three recitations each week. Prerequisite, French 413-414 or 415-416 and permission of the instructor. This course is conducted in French. It is limited to twenty students. Mr. Fouré.

624. Cours de Style (Continued). Three credit hours. One Quarter. Winter and Spring. Three recitations each week. Prerequisite, French 623 and permission of the instructor. This course is conducted in French. It is limited to twenty students. Mr. Fouré.

625. Explication de Textes. Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, French 623, 624, and a "600" course in French literature. This course is conducted in French. Mr. Fouré.

The course aims to introduce the student to a method of literary appreciation based upon a critical study of well selected texts representing the main characteristics of each writer.

626. Explication de Textes (Continued). Three credit hours. Spring Quarter. Three recitations each week. Prerequisite, French 623, 624, and a "600" course in French literature. This course is conducted in French. Mr. Fouré.

Selections from the nineteenth century and contemporary authors.

†**627. French Phonetics.** Three credit hours. One Quarter. Autumn and Winter. Three meetings each week with laboratory practice. Prerequisite, six Quarters of collegiate French or the equivalent with a grade not less than "C," and permission of the instructor. The class is limited to twelve. Mr. Rockwood.

The formation of French sounds. Lectures, with exercises in the use of the symbols of the International Phonetic Association. A systematic study of the rules of French pronunciation. Careful drill in the reading of French. Designed for advanced students who expect to teach French.

Not open to students who have credit for French 632.

628. Modern French Syntax. Three credit hours. Spring Quarter. Prerequisite, six Quarters of collegiate French or the equivalent, with a grade not less than "C." Mr. Demorest.

A careful elucidation of French grammar, with composition to illustrate. Designed for advanced students who expect to teach French.

629. History of the French Language. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, French 628 or permission of the instructor. Mr. Schutz.

A rapid survey of the development of the French language, with special reference to the social and cultural conditions involved.

632. French Phonetics and Diction. Five credit hours. One Quarter. Autumn and Winter. Five meetings each week with laboratory practice. Prerequisite, six Quarters of collegiate French or the

† Not given during the academic year, 1931-1932.

equivalent, with a grade not less than "C," and permission of the instructor. The class is limited to twelve. Mrs. Fouré.

The formation of French sounds. Lectures, with exercises in the use of the symbols of the International Phonetic Association. A systematic study of the rules of French pronunciation and diction. Careful drill in the reading of French. Designed for advanced students who expect to teach French.

Not open to students who have credit for French 627.

705-706-707. Honors Courses in French. Three to ten credit hours. Autumn, Winter, and Spring Quarters. Work in conference, library, or phonetics laboratory. Prerequisite, Senior standing, with the record of "A" in at least half of the French courses and an average of "B" in the remainder, and the approval of the department. Mr. Rockwood.

This course is intended to give undergraduates of special aptitude a greater opportunity to do independent study than is possible in the ordinary course.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 740.

ITALIAN

401. Elementary Italian. Five credit hours. One Quarter. Autumn and Winter. Five recitations each week. Miss Davis.

Russo's Italian Grammar.

This course may not be taken simultaneously with French 401-402 or Spanish 401-402.

402. Elementary Italian (Continued). Five credit hours. One Quarter. Winter and Spring. Five recitations each week. Prerequisite, Italian 401. Mr. Moore, Miss Davis.

Russo's Italian Grammar. Modern Italian prose.

This course may not be taken simultaneously with French 401-402 or Spanish 401-402.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. Modern Italian Literature, 1800-1850. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Italian 402. Mr. Moore.

Foscolo, Manzoni, Pellico, Leopardi.

602. Modern Italian Literature, 1851-1900. Five credit hours. Autumn Quarter. Five recitations each week. Prerequisite, Italian 402. Mr. Moore.

Rovetta, Carducci, Giacomini, Fogazzaro.

***607. Italian Literature of the Renaissance.** Three credit hours. Autumn Quarter. Three recitations each week. Given biennially, alternating with Italian 611. Prerequisite, Italian 602 or the permission of the instructor. Mr. Moore.

Boiardo, Ariosto, Pulci, Machiavelli. Lectures, collateral reading, and reports.

* Not given in 1931-1932.

*608. Italian Literature of the Renaissance (Continued). Three credit hours. Winter Quarter. Three recitations each week. Given biennially, alternating with Italian 612. Prerequisite, Italian 602 or the permission of the instructor. Mr. Moore.

Bandello, Il Lasca, Castiglione, Cellini, Tasso. Lectures, collateral reading, and reports.

609. Survey of Italian Literature to 1400. Three credit hours. Autumn Quarter. Three lectures each week. No prerequisite and no knowledge of a foreign language required. Mr. Moore.

English translations of Dante, Petrarch, Boccaccio. Lectures, readings, and reports will be in English.

610. Survey of Italian Literature, 1400-1900. Three credit hours. Winter Quarter. Three lectures each week. No prerequisite and no knowledge of a foreign language required. Mr. Moore.

English translations of Ariosto, Machiavelli, Cellini, Castiglione, Tasso, Manzoni, and others. Lectures, readings, and reports will be in English.

611. Dante's Life and Works. Three credit hours. Winter Quarter. Three lectures each week. Given biennially alternating with Italian 607. Prerequisite, Italian 602 or the permission of the instructor. Mr. Moore.

Reading of the Vita Nuova and The Inferno, Cantos 1-16.

612. Dante's Life and Works (Continued). Three credit hours. Spring Quarter. Three lectures each week. Given biennially alternating with Italian 608. Prerequisite, Italian 611. Mr. Moore.

Reading of The Inferno, Cantos 17-34, Purgatorio and Paradiso.

SPANISH

401. Elementary Spanish. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Sections in this course are limited to twenty-five students. All instructors.

The elements of Spanish grammar with abundant oral and written exercises. Especial attention to ear training and oral practice.

A practical phonetics laboratory is provided for the use of all students in this course. As much as three hours each week of laboratory practice may be required as a part of the preparation of lessons.

No student may take this course simultaneously with French 401-402 or Italian 401-402.

402. Elementary Spanish (Continued). Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Sections in this course are limited to twenty-five students. All instructors.

The elements of Spanish grammar with abundant oral and written exercises. Especial attention to active vocabulary. Elementary reading based on Spanish geography, history, customs, and manners.

A practical phonetics laboratory is provided for the use of all students in this course. As much as three hours each week of laboratory practice may be required as a part of the preparation of lessons.

No student may take this course simultaneously with French 401-402 or Italian 401-402.

* Not given in 1931-1932.

403. Intermediate Spanish. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, Spanish 402 or an equivalent. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for the optional use of all students in this course.

404. Intermediate Spanish (Continued). Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, Spanish 403 or an equivalent. Sections in this course are limited to twenty-five students. All instructors.

A practical phonetics laboratory is provided for the optional use of all students in this course.

405. Commercial Correspondence. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Spanish 404. Mr. Gutierrez.

410. Elementary Spanish Composition. Five credit hours. Spring Quarter. Five recitations each week. Prerequisite, Spanish 404 with grade of "C" or better. This course is conducted in Spanish. Sections limited to twenty students. Mr. Gutierrez.

413. Advanced Spanish. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, Spanish 404 with grade not lower than "C."

Rapid reading of modern novels and plays, with emphasis on the early period of the nineteenth century.

414. Advanced Spanish. Five credit hours. One Quarter. Autumn, Winter, Spring. Five recitations each week. Prerequisite, Spanish 413. Mr. Gutierrez.

Rapid reading of novels and plays.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

Students intending to major or minor in Spanish are urged to elect the following courses outside of the department: Latin 506, 627, Philosophy 601-602, 603, Greek 701, Phonetics 601, History 645, 646, and English 805.

605. Advanced Composition and Conversation. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Spanish 405, 406, 413, and 414 or an equivalent. Mr. Gutierrez.

This course, conducted wholly in Spanish, is designed especially for prospective teachers and for persons desiring a practical command of the language. The subject matter will be for the most part in history and customs and manners of Spain.

606. Advanced Composition and Conversation (Continued). Three credit hours. Winter Quarter. Three recitations each week. Prerequisite, Spanish 605. Mr. Gutierrez.

This course, conducted wholly in Spanish, is designed especially for prospective teachers and for persons desiring a practical command of the language. The subject matter will be for the most part in history and customs and manners of Spain.

607. *The Modern Spanish Novel*. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 609-610. Prerequisite, Spanish 413-414. Mr. Hendrix.

A careful study of the development of the modern Spanish novel, reading of representative authors. Lectures, collateral reading, and reports.

608. *The Modern Spanish Novel (Continued)*. Five credit hours. Spring Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 609-610. Prerequisite, Spanish 413-414. Mr. Hendrix.

A careful study of the development of the modern Spanish novel, reading of representative authors. Lectures, collateral reading, and reports.

*609. *Romantic Drama and Poetry of the Nineteenth Century*. Five credit hours. Autumn Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 607-608. Prerequisite, Spanish 413-414. Mr. Hendrix.

A survey of the movements in Spanish drama and poetry during the first half of the nineteenth century. Lectures, collateral reading, and reports.

*610. *Modern Spanish Drama*. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 607-608. Prerequisite, Spanish 413-414. Mr. Hendrix.

A survey of the movements in Spanish drama and poetry during the second half of the nineteenth century. Lectures, collateral reading, and reports.

611. *Drama of the Golden Age*. Five credit hours. Autumn Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 614-613. Prerequisite, Spanish 413-414. Mr. Anibal.

An intensive study of a limited number of plays of the representative dramatists. Lectures, collateral reading, discussion, and reports.

612. *Drama of the Golden Age (Continued)*. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 614-613. Prerequisite, Spanish 413-414. Mr. Anibal.

An intensive study of a limited number of plays of the representative dramatists. Lectures, collateral reading, discussion, and reports.

*614. *Cervantes*. Five credit hours. Autumn Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 611-612. Prerequisite, Spanish 413-414. Mr. Anibal.

A study of the works of Cervantes with special emphasis on the *Quixote*. Lectures, collateral reading, discussion, and reports.

†613. *Prose of the Golden Age*. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Given

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

biennially, alternating with Spanish 611-612. Prerequisite, Spanish 413-414. Mr. Anibal.

A study of the prose of the period with especial emphasis on the novel. Lectures, collateral reading, discussion, and reports.

615. Survey of Spanish Literature from the Earliest Times to the Seventeenth Century. Five credit hours. Autumn Quarter. Four meetings each week, a fifth at the option of the instructor. Prerequisite, Spanish 413-414. Mr. Anibal.

Lectures, collateral reading, discussion, and reports.

616. Survey of Spanish Literature of the Seventeenth and Eighteenth Centuries. Five credit hours. Winter Quarter. Four meetings each week, a fifth at the option of the instructor. Prerequisite, Spanish 413-414. Mr. Anibal.

Lectures, collateral reading, discussion, and reports.

617. Modern Spanish Syntax. Three credit hours. Autumn Quarter. Three recitations each week. Prerequisite, Spanish 413-414 and the consent of the instructor. Mr. Anibal.

Study of syntax designed for advanced students who expect to teach Spanish.

620. Spanish Phonetics. Five credit hours. Winter Quarter. Five recitations each week. Prerequisite, Spanish 413-414. Mr. H. J. Russell.

Careful and detailed study of special problems involved in teaching Spanish to English-speaking students. Laboratory analysis of differences between English and Spanish pronunciation.

Not open to students who have credit for Phonetics 605.

626. The Spanish Drama of the Sixteenth Century. Five credit hours. Spring Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 630. Prerequisite, Spanish 413-414. Mr. Anibal.

***630. Survey of Spanish-American Literature.** Five credit hours. Spring Quarter. Four meetings each week, a fifth at the option of the instructor. Given biennially, alternating with Spanish 626. Prerequisite, Spanish 413-414. Mr. Hendrix.

A study of the masterpieces of Spanish-American literature. Lectures, collateral reading, discussion, and reports.

705-706-707. Honors Courses in Spanish. Three to ten credit hours. Autumn, Winter, and Spring Quarters. Work in conference, library, or phonetics laboratory. Prerequisite, Senior standing, with a record of "A" in at least half of the Spanish courses and an average of "B" in the remainder, and the approval of the department. Mr. Anibal.

This course is intended to give undergraduates of special aptitude a greater opportunity to do independent study than is possible in the ordinary course.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 745.

PHONETICS

(See Division of Phonetics, page 193.)

* Not given in 1931-1932.

ROMANCE LANGUAGES

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit, see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

FRENCH

- 801. Introduction to Old French.
- 802. Introduction to Old French (Continued).
- *803. Old Provençal.
- *804. Old Provençal (Continued).
- 809. Research in French Language or Literature.
- 811. Seminary in French Literature.
- 812. Seminary in French Literature (Continued).
- 813. Old French Literature.
- 817. Seminary in French Literature.

SPANISH

- 805. Old Spanish.
- 806. Old Spanish (Continued).
- 810. Research in Spanish Language or Literature.
- 815. Seminary in Spanish Literature.
- †821. Old Spanish Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

RURAL ECONOMICS

Office, 113 Townshend Hall

PROFESSORS FALCONER, ASSISTANT PROFESSORS LIVELY, FOSTER, HENNING, AND SMITH

401. Agricultural Economics. Five credit hours. One Quarter. Autumn and Spring. Five lectures each week. Prerequisite, Economics 405; or concurrent, Economics 402. Mr. Foster, Mr. Henning.

The economics of agriculture, the economics of the production and marketing of farm products, the state and the farmer, the relations of agriculture to other industries, and the social relations of agricultural communities are considered.

405. Sociology of Farm Folk. Five credit hours. Winter Quarter. Five lectures each week. Mr. Smith.

An introduction to rural sociology dealing with the organization, evolution, and current problems of rural society. Present rural social conditions and factors involved in rural social betterment.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

606. Sociology of Farm Folk. Five credit hours. Autumn Quarter. Prerequisite, Sociology 401 or its equivalent. Mr. Lively.

A more comprehensive course than Rural Economics 405, designed to meet the needs of students who have had an acceptable course in sociology.

Not open to students who have credit for Rural Economics 405.

607. Rural Social Organization. Three credit hours. Winter Quarter. Prerequisite, Rural Economics 405 or 606 or permission of the instructor. Mr. Lively.

The need of rural organization. The conditions and units of successful rural organization, including a study of rural group life. The family, neighborhood, and community. The agencies and methods of rural organization including a survey of existing organizations, their scope and aims, characteristics of successful leadership, its source and training. Forces which favor and retard rural organization. Readings, lectures, discussions, and investigations.

SCHOOL ADMINISTRATION

Office, 211 Education Building

PROFESSORS LEWIS, EIKENBERRY, AND KLEIN, ASSOCIATE PROFESSORS REEDER, HECK, AND DAVIS, AND ASSISTANTS

For the guidance of students desiring a definite program preparing in one field in School Administration leading to the Master's degree, the following courses are suggested. Courses outside of the department will be suggested in conference with individual students. Candidates for the Ph.D. degree will be advised individually as their needs dictate. Every student is urged to consult with his adviser in the department as early as possible with reference to the courses he should take and the sequence of the same. The following courses are required of all graduate students majoring in School Administration: School Administration 601, 651, and 838. These courses should be taken as early as possible.

I. For junior and senior high school principals, vice-principals, heads of departments and supervisors; in addition to the three required courses above listed, the following courses are suggested but not required: 609, 625, 631, 818, 831, 832. The order here given is not significant.

II. For elementary school principals and supervisors: 624, 628, 631, 640, 800, 836.

III. For city school superintendents, assistant superintendents and general administrative officers and supervisors: 624, 636, 827, 836, 850, 851, 855, 856.

IV. For county, village and rural superintendents and school supervisors: 610, 624, 811, 827, 850, 851.

V. For research directors or specialists: 624, 625, 827, 835, 839, 850, 851.

VI. For persons specializing in teacher training or planning to teach school administration in a college or a university: consult adviser for suggested courses.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

600. Fundamentals in School Administration for Teachers. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lectures each week. Assigned readings. Required of all students in the College of Education. Mr. Lewis, Mr. Reeder, Mr. Davis.

Treatment of those fundamental problems in school administration which affect the teacher's welfare. Designed as a basic course to give teachers a clearer understanding.

of the problems confronting the school administrator and of the teacher's part in solving them. Ohio school laws, regulations and decisions.

601. Administration of Pupil Personnel. Three credit hours. One Quarter. Autumn, Winter, Spring. Three lectures each week. Assigned readings, investigations, and reports. Required of all students in the College of Education. Mr. Heck.

Compulsory education laws and working certificates of Ohio; main requirements in other states. Census—information it should secure, its use, legal requirements in different states. Attendance—organization of departments, amount and causes of non-attendance, devices to improve attendance. School record systems—forms used, items recorded, and uses. Reporting systems. Need of uniformity in recording and reporting systems. Age-grade-progress studies. Elimination, grading, and promotion. Classification. Definition of terminology. Visiting teacher. Marking systems.

609. Administration of Extra-curricular Activities. Three credit hours. Autumn Quarter. Three lectures each week. Assigned readings, investigations, and reports. Mr. Eikenberry.

A study of those activities which fall outside of the group for which academic credit is ordinarily given. The relation of school administration to non-school community activities. Responsibility of the principal and superintendent for the school as a community center.

610. The Administration of Non-Urban Education. Three credit hours. Autumn Quarter. Three lectures each week. Assigned readings, investigations, and reports. Mr. Davis.

An analysis of the problems of county and village superintendents; factors underlying rural school administrative problems; comparison of rural administrative problems in Ohio with those in other states.

†616. Social Foundations of Public School Administration. Three credit hours. Lectures, investigations, and reports. Prerequisite, three years of experience or one course in sociology or philosophy.

A survey of the aim, organization, and procedure in the supervision, administration, and control of public schools from the standpoint of social philosophy. The principles underlying the superintendent's functions in state, county, city, and village, and the relations of the principals, supervisors, classroom teachers, and the board of education.

618. Minor Research Problems. Two to four credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Senior standing. Admission only on permission of the instructor and the chairman of the department. All instructors.

Investigation of minor problems in the various fields of school administration. A written report on the assigned problem will be required.

By permission of the Chairman of the Department and the Director of the Bureau of Educational Research, students enrolled in this course may obtain credit for research work done under the auspices of the Bureau staff.

621-622-623. Proseminary (Teachers in Service). Two credit hours. Autumn, Winter, and Spring Quarters. Two lectures each week. Assigned readings and reports. Open to superintendents, principals, and teachers in service by permission of the instructor in charge. Mr. Lewis, Mr. Eikenberry, Mr. Heck, Mr. Reeder.

Topics for study will be determined by the group within certain limits set by the department.

† Not given during the academic year, 1931-1932.

624. Administration of Standard Tests in Elementary Schools. Three credit hours. Autumn Quarter. Three lectures each week. Assigned readings and reports. Open to Seniors and graduate students of experience with permission of the instructor in charge.

Selection of tests and organization of testing program for elementary schools. Administrative problems involved in different types of schools and school systems. Publicity and reports. Use of data in formulating and evaluating administrative policies. Remedial programs. The organization and work of bureaus of educational research.

625. Administration of Standard Tests in Secondary Schools. Three credit hours. Winter Quarter. Three lectures each week. Assigned readings and reports. Open to Seniors and graduate students of experience with permission of the instructor in charge. Mr. Heck.

Selection of tests and organization of testing program for secondary schools; the use of mental and educational tests in classification, diagnosis, prognosis, and educational guidance; adaptations of organization, curricula and method to the educational needs of pupils of junior and senior high school age; recent investigations through the use of tests in the field of secondary education.

626. Administration of Health Education. Three credit hours. Spring Quarter. Three lectures each week. Assigned readings, investigations and reports. Mr. Oberteuffer.

The place of health administration in school administration. Medical inspection; school nurse, dentist, and home visitor. Relation of school authorities to public health education. Hygiene of instruction; health of the teacher.

628. Administrative Problems of the Elementary School Principal. Three credit hours. Autumn Quarter. Three lectures each week. Assigned readings and reports. Open with permission of the instructor in charge.

An analysis of the work of the elementary school principal. The principal's relation to: the community, parents, pupils, building custodian, teachers, superintendent, supervisors, and other officials of the central office. Different types of elementary schools—e.g., platoon, duplicate, departmentalized, three-track system, graded mental levels. Qualifications necessary for effective leadership. Office routine, business management supervision.

631. Organization of the Junior High School. Three credit hours. Winter Quarter. Three lectures each week. Assigned readings and reports. Open with permission of the instructor in charge. Mr. Eikenberry.

A functional analysis of the work of the junior high school principal. Adaptation to school organization needed for attaining the objectives of the junior high school. The problems involved in junior high school organization in city schools and county school systems.

636. School Publicity. Two credit hours. Spring Quarter. Two lectures each week. Assigned readings, investigations and reports. Open to superintendents, principals, and graduate students of experience by permission of the instructor in charge. Mr. Reeder.

A study of both continuous and campaign publicity for schools through use of contests, exhibits, printed reports, newspapers, etc.; organization of publicity; means of securing support; the checking of results.

†638. **Administration of Radio Education.** One credit hour. Assigned readings and reports. Open on permission of instructor and chairman of department.

This course is designed for teachers and administrators who are directly or indirectly supervising radio educational programs. The items covered include policies, securing of talent, the determination of hours of service, the selection of topics which fit into the programs of schools and the evaluation of the service.

640. **Administration of the Curriculum in the Elementary School.** Three credit hours. Autumn Quarter. Assigned readings, investigations, and reports. Open to Seniors and graduate students with permission of the instructor in charge.

An examination of the experimental evidence bearing upon the administrative problems concerned with the curriculum of the first six grades. Placement of subject matter in the elementary grades; program making for different types of schools; problems involved; regular and special subjects. Standards for selection of textbooks; administration of free textbooks.

†645. **Administration of School Libraries.** Two credit hours. Assigned readings and reports. Open to Seniors and graduate students with permission of the instructor in charge.

Designed to meet the needs of school librarians and general administrative school officers. Principal topics: history and development of the school library; its place in educational systems; standards and state regulations; rooms, equipment, and budgets; selection, acquisition, and care of books; publicity and cooperation with other agencies; instruction in the use of books; relation of librarian to teachers and school officials.

650. **Administrative Problems of the Non-Urban Secondary School Principal.** Three credit hours. Spring Quarter. Three lectures each week. Mr. Davis.

An analysis of the work of the secondary school principal in non-urban districts. The principal's relation to community, parents, pupils, building custodian, teachers, superintendent and other officials.

A study of the special administrative problems peculiar to non-urban secondary schools, together with the problem of organizing and administering village and rural high school districts and schools, including the program of studies, the schedule of recitations, records and reports, health and safety administration, school library, examinations, marks and promotions, educational and vocational guidance, disciplinary control, extra-curricular activities, supervision, tests and measurements. This course is particularly designed for beginning superintendents and principals whose first field of endeavor will be the administration of small high schools.

Not open to students taking School Administration 831 or 832.

651. **Fundamentals in School Administration for Administrators.** Three credit hours. Winter Quarter. Three lectures each week. Assigned readings. Mr. Reeder.

An introductory course for persons preparing for school administrative positions. The main topics are: the federal government and education; state administrative and supervisory organization; local administrative organization; finance and business administration; the plant; the teaching corps; the pupils; the curriculum, textbooks and libraries; records, reports, and publicity.

Not open to students who have credit for School Administration 600.

† Not given during the academic year, 1931-1932.

†658. Administration of School Financial Accounting in Ohio. Two credit hours. Assigned readings, problems, and reports.

A study of the financial accounting systems in use in Ohio school districts including a consideration of underlying principles and legal regulations as well as actual practice in preparing budgets, financial statements and contracts, auditing payrolls, and the supervision of such clerical details as the keeping of books, minutes, and other records.

†660. Organization and Administration of Speech Correction in the Public Schools. Three credit hours. Prerequisite or concurrent, Psychology 609 and Phonetics 630.

Different types of speech handicaps; methods of selecting cases; organization of classes; equipment and supplies; qualifications of teachers; supervision; follow-up; measuring results.

†670. Administration of Teacher Retirement and Pension Systems. One credit hour.

A general introductory treatment of the problems involved in creating and maintaining an adequate retirement system for the teachers of a state.

†674. Organization and Administration of the Education of the Mentally Retarded. Three credit hours. Prerequisite, Psychology 609 and Principles of Education 654, or consent of instructor.

Characteristics of the mentally retarded; educational objectives; selection of cases; location and equipment of special classes; course of study; supervision; qualifications of teachers; cooperation with outside agencies; vocational guidance and training; placement and follow-up; cost; appraisal of results.

†675. Organization and Administration of the Education of Behavior Problem Children. Three credit hours. Prerequisite, Psychology 609 or consent of the instructor.

Characteristics of the emotionally unstable, the nervous, and the delinquent; selection of cases; organization of classes and schools; equipment and supplies; course of study; supervision; guidance, placement and follow-up; appraisal of results.

†690. Institute for Officers of Classroom Teachers' Associations. One to three credit hours. Open to graduates and undergraduates by permission of the instructor.

This course is offered at the request of the National League of Teachers' Association and is designed to afford the League and all its affiliated organizations a National Institute for the consideration of the manifold problems with which officers and prospective officers of teachers' associations have to deal.

NOTE: For Physical Education 645, three credit hours, Administration of Physical Education for Administrators and Supervisors, see page 207.

NOTE: For Practical Arts and Vocational Education 625, three credit hours, Administration of Industrial Arts and Vocational Education, see page 222.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

800. The Preparation of Theses and Other Scientific Papers.

801. Administration of Colleges and Universities.

† Not given during the academic year, 1931-1932.

- 802. Seminary in School Administration.
- 803. Ad Interim Projects.
- 805-806-807. Major Research Problems.
- 810. Social Foundations of Public School Administration.
- 811. State Administration of Education.
- †812. Administration of National Systems of Education.
- 813. Legal Basis of School Administration.
- 815. Seminary in County School Administration.
- *816. Seminary in School Finance and Business Management.
- †817. Seminary in Secondary School Administration.
- 818. Administration of the Curriculum in the Secondary School.
- †820. The Administration of Curriculum Reorganization.
- 825. Problems in the Administration of Teacher Placement Agencies.
- 826. The Administration of Guidance Programs.
- 827. Personnel Administration in Education.
- *830. Administrative Problems of the City Superintendent.
- 831. High School Administration (City). First Course.
- 832. High School Administration (City). Second Course.
- †833. Administrative Problems of the Large Cosmopolitan High School.
- †835. Administration of Experimental Education.
- 836. Administration of Special Education.
- †838. Educational Statistics: Elementary.
- †839. Educational Statistics: Secondary.
- 840. Administration of the Junior College.
- 843. Administration of Teacher Training Institutions.
- 844. Financial Administration in Higher Education.
- 845. Seminary in Administration of Higher Education.
- 850. Business Management of Schools.
- 851. School Finance.
- 855. Planning and Construction of School Buildings.
- †856. Equipment of School Buildings.
- 870. Seminary in the Administration of Elementary Education.
- 872. The Administration of Achievement Tests in Higher Education.
- 878. Seminar in the Administration of College Student Personnel.

For description of graduate courses in this department see the Bulletin of the Graduate School.

* Not given in 1931-1932.

† Not given during the academic year, 1931-1932.

SCIENCE NURSING
(See Public Health and Hygiene)

SHOPWORK
(See Industrial Engineering)

SOCIOLOGY
Office, 109B Commerce Building

PROFESSORS HAGERTY, NORTH, LUMLEY, MARK, MILLER, AND STILLMAN,
ASSOCIATE PROFESSOR DENUNE, ASSISTANT PROFESSOR JONES,
MISS SPAETH, MR. PATERSON, MISS GRIGGS, MR.
MASON, AND ASSISTANTS

401-402. Principles of Sociology. Five credit hours. Two Quarters. Both 401 and 402 are given Autumn, Winter, Spring. Not open to Freshmen. Mr. North, Mr. Denune, instructors and assistants.

A study of the fundamental ideas and principles of sociology. Syllabus, assigned reading, lectures, discussions, reports.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

601. The Family. Four credit hours. One Quarter. Winter and Spring. Prerequisite, Sociology 401-402. Miss Spaeth.

A survey of types of family organization from primitive times to the present, and an analysis of the factors that entered into their development. The modern family and an analysis of modern family problems.

602-603-604. General Sociology. Three credit hours. Autumn, Winter, and Spring Quarters. Open only to Seniors and graduate students who have had no previous work in general sociology. Mr. Lumley.

A general course covering the materials of Sociology 401-402, but adapted to the needs and capacities of more mature students.

605. The Immigrant. Four credit hours. Winter Quarter. Prerequisite, Sociology 401-402 or 410. Mr. Miller.

A study through the various immigrant groups of social attitudes resulting from political, religious, economic and social relations of groups. The psychological and practical problems of adjustment. General principles of group relationship rather than specific methods of procedure.

607. The Race Problem. Four credit hours. Autumn Quarter. Prerequisite, Sociology 401-402 or 410. Mr. Miller.

Survey of contemporary and potential race contacts and conflicts throughout the world. Development of race consciousness. Relations of Caucasians, Negroes, Indians, and Mongolians in the United States.

611. Introduction to Anthropology. Four credit hours. Winter Quarter. Textbooks, lectures, papers, and discussions. Prerequisite, Sociology 401. Miss Spaeth.

The field of anthropology; origin and antiquity of man, his essential characteristics, relation to the animal kingdom; the criteria of race distinction, the several races and some anthropological problems.

Not open to students who have credit for Sociology 411.

612. Social Anthropology. Four credit hours. Spring Quarter. Four recitations each week. Textbooks, lectures, papers, and discussions. Prerequisite, Sociology 611. Miss Spaeth.

A study and analysis of types of social organization of primitive man, such as the clan, family, political organization, religion, etc.

Not open to students who have credit for Sociology 412.

621. The Community and the Child. Three credit hours. One Quarter. Autumn, Winter, Spring. Prerequisite, Sociology 401. Open only to students in Home Economics who do not have credit for Sociology 601 or 617. Students from other departments admitted only with the consent of the instructor. Miss Spaeth.

The family as a social institution, its historical development and present status. Modern conditions affecting home life. The child as affected by economic and social factors outside the home. The dependent and the neglected child. Social legislation affecting the child. Social responsibility toward the child.

625. The Criminal. Three credit hours. Spring Quarter. Prerequisite, Sociology 401-402. Mr. Hagerty.

The social, economic, and physiological causes of crime. The changing character of crime as modified by the legal code. Types of criminals, the instinctive, habitual, professional, etc. The classical and positive schools of criminology. The relation of feeble-mindedness and degeneracy to crime. Juvenile crime, its causes and prevention.

***640-641. Sources of Social Data.** Three credit hours. Autumn and Winter Quarters. Open only to Seniors and graduate students. Prerequisite, Sociology 401 and 402. Miss Mark, Miss Griggs.

A survey of both primary and secondary sources of information available to the student of social conditions. Where such information is to be found; under what conditions and with what limitations it is available to the investigator; in what degree it is reliable and trustworthy; what value it has for specific uses.

645. Leisure and Recreation. Four credit hours. Autumn Quarter. Prerequisite, Sociology 401-402. Mr. Mason.

The sources of leisure in early and modern society. The social significance and uses of leisure. The social functions of play. Historical aspects of play. The recreation problems of modern communities from the standpoint of control and of public provision.

646. Social Organization and Administration of Recreation Facilities. Four credit hours. Winter Quarter. Prerequisite, Sociology 645. Mr. Mason.

Methods and means of control of commercialized recreation with special reference to American cities and towns. The promotion and organization of public and semi-public agencies. The administrative control of playgrounds, social centers, clubs, and other non-commercialized agencies. The coordination of the recreation facilities of the community.

647. The Organization and Direction of Group Activities. Three credit hours. Autumn Quarter. Lectures, readings, practical demonstrations. Open to Seniors in Social Administration and in Education, and graduate students. Prerequisite, Sociology 645. Mr. Mason.

A consideration of the problems and methods of directing boys' and girls' clubs and other similar groups. The use of story telling, group singing, social dramatics, games, including demonstrations and instructing in the various techniques.

* Not given in 1931-1932.

656. Rural Social Institutions. Four credit hours. Spring Quarter. Prerequisite, Sociology 401-402. Mr. Denune.

The problems of health, recreation, social intercourse, housing, child welfare, dependency, defectiveness, and delinquency in American rural communities and small towns. The agencies and organizations dealing with these problems.

657. Welfare Problems in Rural Communities. Four credit hours. Autumn Quarter. Prerequisite, Sociology 656 or Rural Economics 606. Mr. Denune.

The relation of the school, the church, the Christian Associations, recreational societies, relief agencies, and the Juvenile Court to welfare problems in rural communities and small towns. A consideration of recreation, social intercourse, health, child welfare, dependency, defectiveness, and delinquency. This course is designed to give to rural teachers, ministers, and social workers a knowledge of the welfare problems which exist in rural communities and the methods by which they are being approached by rural workers.

665. Social Order and Social Control. Three credit hours. Autumn Quarter. Textbooks, lectures, papers, and discussions. Prerequisite, Sociology 401-402 or 410. Mr. Lumley.

The social order, its nature, its varieties, its origin; the agencies of social control, such as custom, conventionality, social suggestion, public opinion, law, education, religion, art, ceremony, ideals, personality. Additional readings for graduate credit.

FOR GRADUATES

NOTE: For courses in the "600" or "700" groups that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. History of Sociological Thought.

805-806-807. American Sociological Theory.

813. Contemporaneous Social Work.

814. The Social Work Executive.

†**815. The Community.**

†**820. Seminary in Anthropology.**

821-822-823. Graduate Seminary.

827. Nationality and Nationalism.

828. Social Classes.

829. Social Changes through Crisis.

834. Development of Social Agencies.

845-846. Methods of Sociological Investigation.

847-848-849. Research in Penology.

855. Social Work in Practice.

856. Social Purpose.

857. The Reconstruction of Western Culture.

858. Modern Social Movements.

870. Research in Special Problems.

For description of graduate courses in this department see the Bulletin of the Graduate School.

† Not given during the academic year, 1931-1932.

SPANISH

(See Romance Languages and Literatures)

EDUCATION SURVEY COURSES

(See Courses of General Interest on page 84.)

VOCATIONAL EDUCATION

(See Practical Arts and Vocational Education)

ZOOLOGY AND ENTOMOLOGY

Office, 101 Botany and Zoology Building

PROFESSORS OSBURN, OSBORN (RESEARCH), BARROWS, DeLONG, AND PETERSON, ASSOCIATE PROFESSORS KENNEDY AND SNYDER, ASSISTANT PROFESSORS KOSTIR, D. F. MILLER AND PRICE, MR. J. N. MILLER, MR. J. A. MILLER, MR. DUNHAM, MR. WARNER, MR. FLETCHER, MR. BORROR, MISS MONTGOMERY, AND ASSISTANTS

ZOOLOGY

***400. Natural Science for Elementary Teachers.** Three credit hours.

This course will consider the contributions of natural science to the educational development of children. Native trees and shrubs, the common flowers, weeds of garden and lawn, birds, reptiles, a few insects, and other phenomena of nature interesting to the child will be studied. Emphasis will be placed on the use and care of aquaria and terraria in the school and home. One of the objectives of the course will be to develop for the student the scientific attitude and method and to point out its implications for school organization and practice.

401-402. General Zoology. Five credit hours. Two Quarters. Both 401 and 402 are given Autumn, Winter, Spring. Five lecture-laboratory periods each week. Mr. Barrows, Mr. D. F. Miller, Mr. Price, instructors, and assistants.

A course intended to give the student a general view of the nature of animal life and to point out its relation to man's economic and social activities. The chief topics considered are as follows: nature and structure of living substance, food and its energy transformations, the essentials of reproduction; a review of the animal groups with special stress on useful and harmful qualities; animal distribution and relation to environment; heredity and evolution with particular stress upon their relation to human affairs.

403. General Principles of Heredity. Five credit hours. One Quarter. Autumn, Winter, Spring. Five lectures each week. Prerequisite, Zoology 401-402 or Botany 401-402 or equivalent. Mr. Snyder.

A study of heredity in animals and plants, to serve as an introduction to heredity, as a basis for advanced work in plant and animal breeding, and as an aid in the analysis of biological and sociological problems into which the question of heredity enters. The subject will be presented in lectures, illustrated with lantern slides and actual specimens. Exercises in the form of problems will be assigned. The different types of heredity studied will be chosen from the animal and plant material which best illustrates the subject. Hereditary characters found in man will be used to a large extent. The course will be made as simple and practical as the subject will permit. Present-day theories and technical applications will be left for discussion in the more advanced courses to which they properly belong.

* Not given in 1931-1932.

*408. Ornithology. Five credit hours. Spring Quarter. Two lectures and three two-hour periods of laboratory or field work each week. Prerequisite, two Quarters of biological science.

A study of the classification of birds, structure, food habits, nests, eggs, and migration, together with the identification of species from museum material and in the field.

FOR ADVANCED UNDERGRADUATES

According to the University regulations, courses in this group are not open to Freshmen or Sophomores.

509. Evolution. Five credit hours. One Quarter. Winter and Spring. Five lectures each week. Prerequisite, two Quarters of biological or geological science. Mr. Osburn.

The facts and theories of organic evolution. The general treatment is: historical aspects, evidences, factors, and the theories proposed from the time of Lamarck to the present.

Not open to students who have credit for Zoology 409.

609. Animal Microtechnic. Three or five credit hours. Spring Quarter. A laboratory course. Laboratory work, assigned readings, and conferences. This course is designed for students intending to major in one of the biological sciences. Prerequisite, Zoology 401-402 or equivalent, and permission of the instructor. Limited to twelve students. Mr. Kostir.

Theory and practice of microscopic methods, including fixing, embedding, sectioning, and staining of animal tissues, making permanent preparations, and special manipulation of the microscope and its accessories.

Not open to students who have credit for Zoology 407.

617. Cellular Biology, I. Five credit hours. Winter Quarter. Three lectures and two two-hour laboratory periods each week. Permission of the instructor must be obtained before registering for this course. Mr. Kostir.

A study of the organization of living cells and the fundamental phenomena of life.

618. Cellular Biology, II. Five credit hours. Spring Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite: Zoology 403 or equivalent is necessary; Zoology 617 is desirable, but not essential. Mr. Kostir.

A study of the physical basis of heredity, variation and evolution.

620. Advanced Zoology of Vertebrates. Five credit hours. Spring Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite, Zoology 401-402, or equivalent. Zoology 509 and one Quarter in comparative anatomy are also desirable. Mr. Price.

A study of the various vertebrate groups, emphasizing their origin, phylogeny, classification, life histories, habits, distribution, and economic importance. Laboratory, museum, and field work. Especially recommended for students specializing in biological science.

625. Advanced Zoology of Invertebrates I. The Protozoa. Five credit hours. Autumn Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Zoology 401-402 or equivalent. Mr. Kostir.

Zoology 625, 626, 627 are fundamental courses designed to give the student a general knowledge of the structure, life histories, habits, and relationships of the invertebrate

* Not given in 1931-1932.

animals. While it is preferable that these courses be taken in the order given, that is not essential, and any one of the three may be elected independently of the others. Course 625 deals with the protozoa, including both free-living and parasitic forms.

Not open to students who have credit for Zoology 615.

626. Advanced Zoology of Invertebrates II. Five credit hours. Winter Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Zoology 401-402 or equivalent. Mr. Kostir.

A study of the structure, life histories, habits, and relationships of sponges, coelenterates, worms, and arthropods, together with the consideration of important biological principles illustrated by these groups. Note statement under Zoology 625.

Not open to students who have credit for Zoology 616.

627. Advanced Zoology of Invertebrates III. Five credit hours. Spring Quarter. Two lectures and three two-hour laboratory periods each week. Prerequisite, Zoology 401-402 or equivalent. Mr. Kostir.

A study of the structure, life histories, habits, and relationships of molluscs, echinoderms, brachiopods, and bryozoa, together with the consideration of important biological principles illustrated by these groups. Note statement under Zoology 625.

NOTE: TEACHING COURSES. For the Teaching Course in this department see the Department of Principles of Education, Course 705.

FOR GRADUATES

NOTE: For courses in the "600" group that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Seminary in Zoology.

805-806-807. Invertebrate Zoology.

808-809. Invertebrate Embryology.

811-812-813. Research Work.

For description of graduate courses in this department see the Bulletin of the Graduate School.

ENTOMOLOGY

450. General Entomology. Five credit hours. Winter Quarter. Three lectures and two two-hour laboratory periods each week. Prerequisite, Zoology 401-402, or equivalent. Mr. DeLong and assistants.

A survey of the orders and families of insects with special emphasis on the biology and habits of the more important families. In the laboratory the more important insect families will be studied.

This course is especially recommended for students in the Colleges of Arts and Sciences, and Education, who intend to teach biology, or who wish an introduction to the study of insects.

Not open to students who have credit for Entomology 452.

451. Economic Entomology. Five credit hours. One Quarter. Autumn and Spring. Three lectures and two two-hour laboratory periods each week. Prerequisite, Zoology 401-402 or equivalent. Mr. DeLong and assistants.

The economic importance of insects, the basis for insect control, a survey of the important pests of farm, garden, orchard, forest, household, mill, storehouse and those

that affect the health of man and domestic animals, with a discussion of their specific control.

Field observations of habits and damage, the recognition of many economic species and the preparation and application of remedial measures. Students are required to prepare a collection. Those desiring to collect specimens in advance should get printed instructions from the department.

461. Apiculture. Five credit hours. Spring Quarter. Three lectures and two two-hour laboratory periods each week. No prerequisite. Mr. Dunham.

This course is designed to give the student a general knowledge in the field of bee-keeping. It emphasizes the management of commercial apiaries; approved methods for the production of comb and extracted honey; queen rearing and requeening colonies; microscopical and field diagnosis and the control of bee diseases; and the judging of bees and bee products. Special attention is also given to the management and value of honey bees in aiding in the pollination of orchards. Most of the laboratory periods will be spent in the college apiary or in making field trips.

Not open to students who have credit for Entomology 453.

FOR GRADUATES

NOTE: For courses in the "600" group that are open for graduate credit see the Bulletin of the Graduate School.

An undergraduate student shall not be permitted to take any course in the "800" group except by permission of the Graduate Council.

801-802-803. Seminary in Entomology.

811-812-813. Research Work.

814-815-816. Biological Control of Insect Pests.

817. Morphology and Development of Insects.

For description of graduate courses in this department see the Bulletin of the Graduate School.

